

V E R M O N T

**Report of the Healthcare
Workforce Partnership**

*A study of the human resource needs
of the healthcare industry*

2005

A Professionally Staffed Healthcare System

The Healthcare Workforce Partnership:

Jessica Comai, Director, UVM Area Health Education Center Program

Paula Cope, MEd, PT, President, Cope & Associates, Inc.

Bea Grause, President, Vermont Association of Hospitals and Health Systems

Tom Leever, Chair, Human Resource Investment Council

Daria Mason, CEO, Central Vermont Medical Center

Pat Menchini, RN, MSN, Dean of Allied Health, Vermont Technical College

Darlene Murphy, MEd, ATC, Allied Health Programs Coordinator, CCV

John O’Kane, Manager of Governmental Affairs, IBM

Rick Palmisano, CEO, Retreat Healthcare

Mary Val Palumbo, MSN, APRN Manager Office of Nursing Workforce, UVM

Craig Stevens, MPH, Vermont Department of Health

Val Vincent, Vermont House of Representatives

Greg Voorheis, Special Assistant to the Commissioner, DET

We would also like to thank:

- **Each of the professionals, Vermont and National membership organizations for their time and expertise in contributing to this report.**
- **The UVM Area Health Education Center Program for use of their Health Careers Handbook which provided profiles of each of the professions listed.**
- **The Human Resource Investment Council and the Department of Employment and Training for their ongoing support and financial contributions.**

TABLE OF CONTENTS

EXECUTIVE SUMMARY	4
HEALTHCARE WORKFORCE PARTNERSHIP	6
PROJECT OVERVIEW	7
HEALTHCARE SETTINGS.....	11
OVERARCHING FINDINGS	13
INDIVIDUAL PROFESSION BRIEFS.....	16

EXECUTIVE SUMMARY

The number of people over 65 years old is growing, as is the incidence of chronic diseases such as diabetes and cardiovascular disease. These are just two examples of factors increasing the demand for health care services. It is no surprise then to realize that health care is one of the fastest growing industries in Vermont and the nation. As the population continues to age and diseases associated with the aging process rise, it will be of increasing importance to assure that Vermont develops and maintains an adequate workforce to meet the needs of its population. In addition, it is important to monitor the geographic distribution and types of healthcare professionals so that resources can be targeted to ensure that the right people with the right skills are working in the right places.

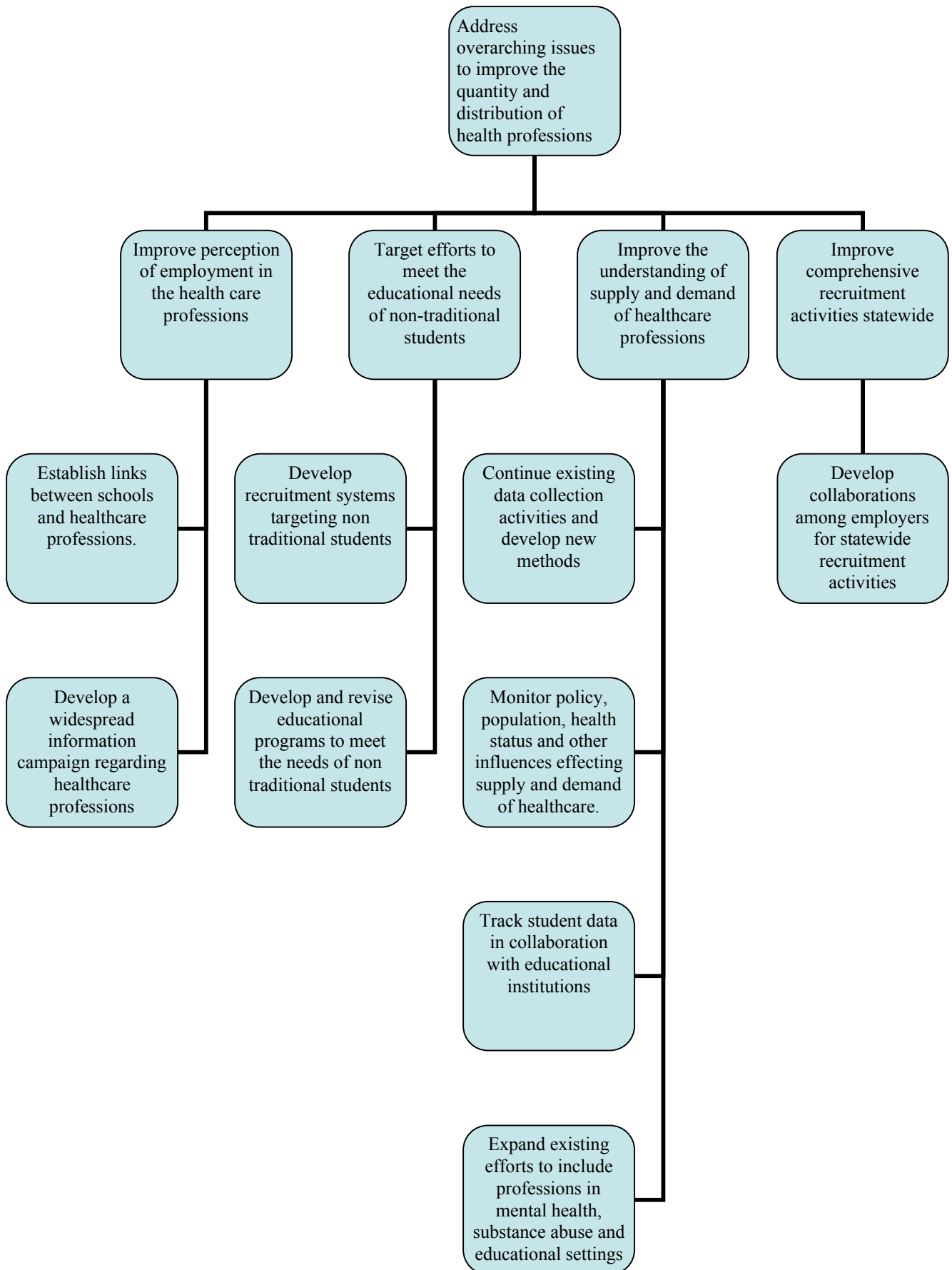
Historically, policies, laws and rules related to the health care industry have had a significant focus upon regulating capitol expenditures in order to control the costs associated with health care. While this project provides recommendations to increase the availability and distribution of the health care workforce, the most important message it needs to convey is that we need to change our thinking about the type of infrastructure necessary to meet the health care needs of Vermonters. Conventional health care planning will need to change. The previous focus on physical infrastructure will need to expand in recognition of the fact that our workforce will be a significant factor. If we do not begin now to address the workforce issue, our future ability to provide quality healthcare will be seriously compromised.

The Healthcare Workforce Development Partnership has crafted this document as the beginning of Vermont's effort to addressing the most current healthcare workforce issues, however, it will be equally important to continue the work that was started here through implementation of the recommendations of this committee, and the continued monitoring of the workforce needs of this industry. The Partnership has relied upon available data and interviews with key stakeholders and has identified twenty high priority professions. Professionals, membership organizations, employers and policymakers will all need to work together to address the specific areas in which the committee recommended action. This report focuses on the following professions:

Adult and child psychiatrist	Occupational therapist
Dental assistant	Personal care attendant
Dental hygienist	Pharmacist
Dentist	Pharmacy technician
Dietetic technician	Primary care physicians
Licensed practical nurse	Specialty care physicians
Registered nurse	Radiologic technologist
Psychiatric nurse practitioner	Respiratory therapist
Medical laboratory technician	Social worker
Medical laboratory technologist	Speech language pathologist

While each of the professions included in this report have a unique set of recommendations there were also a number of common and repeating themes. These overarching issues and their associated recommendations are represented in the chart on the following page.

A Professionally Staffed Healthcare System



THE HEALTHCARE WORKFORCE DEVELOPMENT PARTNERSHIP

In response to the growing healthcare workforce shortages throughout Vermont, a multidisciplinary team of stakeholders was formed to determine how to address the most important issues related to a viable, stable healthcare workforce. This team, the Healthcare Workforce Development Partnership, is a subcommittee of the Human Resources Investment Council (HRIC). The HRIC is a public-private partnership which has served as the statewide oversight body for monitoring employment and training programs and to advise the Governor and various agencies responsible for providing employment training. The HRIC work includes analysis of labor market trends and projecting supply and demand in tandem with economic development organizations, educational institutions and Department of Employment and Training in order to improve the responsiveness of the education and training system to the needs of employers. Within that process, they support sector workforce analysis including such areas as healthcare and information technology. Finally, the HRIC works through partnerships to create and develop systems for preparing youth to enter the Vermont economy, support individuals who are changing careers and professional development and retraining programs for incumbent workers. The regional Workforce Investment Boards (WIBs) were created under the HRIC to support these efforts on a regional basis.

The Partnership Vision:

The Citizens of Vermont have access to a professionally staffed healthcare system with the resources to efficiently meet their needs.

The Partnership Mission:

To convene a public/private partnership to address the workforce shortage in Vermont's healthcare system and to facilitate the recruitment, education and continued employment of Vermonters to support a vital healthcare system.

The Partnership Goals:

1. Develop a health care workforce with competencies and skills necessary to provide and maintain a high quality, technologically advanced and efficiently operated health care delivery system within Vermont.
2. Provide opportunities for Vermonters to have rewarding careers in a broad range of health professions

PART I: PROJECT OVERVIEW

In Vermont, the need for an adequate number of health care professionals to provide quality care has been growing in importance. Employers in the healthcare industry have described the difficulties associated with recruitment and retention of health care professionals and the public and policy-makers have had a growing concern on the impact of staff vacancies on health care access and quality. Legislation such as Act 53 which emphasizes a rational allocation of resources, including human resources, to meet the health needs of the population underscores the need to assure adequate the availability of a qualified workforce to forward the states healthcare agenda. As a result, the Healthcare Workforce Development Partnership initiated this project to better understand the supply and demand of health care professionals as well as to develop recommendations to address the state's greatest needs. Information was gathered to address the following questions:

- What are the priority health care professions to include in the assessment and report?
- Of those priority professions, what are the challenges with supply and demand in Vermont?
- What are the steps that can be taken to address those challenges?
- What are the most relevant issues for the healthcare workforce that can be addressed through Act 53 activities.

Determining which professions to include in this report:

The Partnership relied upon existing data to determine which healthcare professions should be included in this assessment and report. A number of previous health care workforce assessments have been completed in Vermont. This report builds on that work, these include:

- 2003 Vermont Health Workforce Assessment Pilot Study completed by the Office of Nursing Workforce Research, Planning and Development, UVM College of Nursing and Health Sciences
- 2001 Paraprofessional Staffing Study developed under the direction of the Vermont Department of Aging and Disabilities
- 2003 Dentist Survey which is a biennial licensing survey administered by the Vermont Department of Health.
- 2000 Physician Survey which is a biennial licensing survey administered by the Vermont Department of Health*.
- 2000 Physician Assistant Survey which is a biennial licensing survey administered by the Vermont Department of Health*.
- 2000 Advanced Practice Nurse Survey which is a biennial licensing survey administered by the Vermont Department of Health*
- 2003 Board of Nursing RN Relicensing Survey, analyzed by UVM Office of Nursing Workforce Research, Planning and Development
- 2002 Board of Nursing LPN Relicensing Survey, analyzed by UVM Office of Nursing Workforce Research, Planning and Development

*2003 survey data was not available at the time of this project.

These sources provided data for 54 health care professions; these professions became the cohort from which priority professions would be drawn. Adequate data sources on health professionals in schools, mental health and substance abuse institutions is not consistently available. As a result, full evaluation of some these professions will require additional data collection and research.

Information was collected on the 54 professions identified in order to assist in ranking and prioritizing a select group for inclusion in this report. Information such as national labor supply,

A Professionally Staffed Healthcare System

demand and employment trends, patient safety issues, licensing and certifications, and age were collected and put into a comprehensive grid to assist in the prioritization process. Examination of these professions provided insights on high-priority professions. Professions were chosen based on the following selection criteria:

1. Greater than a 10% turnover and vacancy rates
2. Greater than a 10% vacancy rate only
3. Greater than a 10% turnover rate and national demand is expected to exceed supply in the future
4. Other relevant but unique factors

This methodology narrowed the list of priority professions to 20.

Understanding supply and demand and developing recommendations:

Beyond the above data, sources of information included; key informant interviews and professional white papers and existing workforce research and publications. Forty-seven individuals were interviewed including: Human Resource Directors, Managers, healthcare professionals, Vermont and nationally based professional organizations. Each interview included the following questions:

- Are there problems with supply and demand or recruitment and retention of profession X in Vermont?
- Is this a local, regional or national phenomenon?
- What do you see as the current reasons for this difficulty?
- Are there any changes in the health care environment which will affect supply and demand in the future?
- Do you know what other states are doing to address problems with this profession?
- What suggestions do you have for addressing the problems with this profession?

Literature on workforce supply, demand and development is scarce, however, there are a number of reports and “white papers” developed by professional organizations, federal agencies as well as journal publications. These documents were reviewed to answer the same questions posed in the key informant interviews. Finally, all data from surveys, interviews and literature were summarized as observations and recommendations in each of the priority areas.

Overarching issues and recommendations:

Throughout discussions with key stakeholders and the review of literature it became evident that there were some issues that were common to a number of healthcare professions. They represent structural or systemic issues of the healthcare workforce pipeline and should be considered a higher priority than other recommendations. These overarching recommendations are found starting on page 13.

How to use information in this report:

It became evident early in our work that existing research and data on healthcare workforce supply was not fully adequate to support long range planning. While we have used existing data and research to define priority professions for this report, in some cases we had to rely upon a rudimentary and somewhat imperfect approach to assessing needs and determining recommendations. That is not to say that the recommendations are soft and unfounded, rather, in order to make progress towards alleviating our greatest healthcare workforce pressures, we need to begin with what we know, continue to improve existing data and work to create solutions given the information that we are able to assemble.

A Professionally Staffed Healthcare System

This report is intended to focus attention on a select number of professions, and to create momentum for ongoing efforts to monitor our healthcare workforce **before** we experience a crisis. We anticipate that this report will prompt key stakeholders to take immediate steps towards addressing the most important challenges related to healthcare workforce supply and demand. To accomplish this we have focused on those professions which are most critical, and which, absent a well coordinated effort, could well experience increasingly critical worker shortages.

Next steps and who owns the recommendations:

It is essential that those who are directly involved in preparing and employing the healthcare workforce take the lead in responding to these challenges. It will be important for someone to facilitate discussion of the recommendations contained in this report with these stakeholders. This facilitation has become an increasingly important role for the Partnership.

KEY PARTNERS AND INITIATIVES

UVM AHEC Program:

The UVM AHEC Program develops a health careers directory for youth that is distributed to schools throughout the state. Based upon the findings identified in this report, AHEC anticipates focusing their directory on providing information on high need professions as a way to inform and encourage youth to consider those professions as a career.

UVM Office of Nursing Workforce Research, Planning and Development:

With funding from the Vermont legislature, this office was established to examine factors and resolutions related to the state's nursing crisis. Since its inception, it has continued to focus on nursing issues and has expanded its mission to include other high priority professions. The UVM Office of Nursing Workforce Research, Planning and Development is looking to this document to prioritize its work and assist it in identifying the highest need professions in the state.

Vermont Healthcare Workforce Summit:

The Healthcare Workforce Development Partnership feels strongly that they can best assist in addressing the healthcare workforce needs of Vermont by bringing key stakeholders together to discuss and address the issues related to workforce supply and demand. This facilitation and convening of partners will be continued in a Healthcare Workforce Summit convened by the Partnership. The purpose of the Summit will be to bring together professionals, employers and member organizations to discuss recommendations and action steps outlined in this report. The event is scheduled for June 1st and 2nd, 2005.

Act 53:

Last year, the legislature passed a bill which calls for the development of a rational allocation of resources based upon the healthcare needs of Vermonters. Act 53 includes language for assuring the human resources to meet these needs. This report identifies priority professions and the associated recommendations which will be critical to accomplishing the objectives set forth in Act 53.

PART II: HEALTH CARE PROFESSION SETTINGS

This report covers occupations that can be found in a wide range of clinical, institutional and home health organizations. Each faces unique workforce issues.

Hospitals:

Employers cite not being able to adequately compensate staff in order to remain competitive with other states, and to afford healthcare travelers (professionals employed by national firms who come to Vermont to fill vacancies on a temporary basis at higher than usual costs to employers). Hospitals have an enormous array of professions to recruit and retain. The effort needed to develop ongoing partnerships with high schools, tech schools and other post secondary education programs that could provide a steady supply of workers is particularly problematic for Vermont's rural hospitals. While hospitals represent a significant hub of health care in our communities, they are relatively small and often find it difficult to provide adequate, centralized resources to recruit the wide array of professions necessary to run their facilities. Most often, human resource staff must prioritize and concentrate on immediate vacancies or their most urgent staffing needs. Systematically anticipating and addressing future workforce issues is well beyond the scope of their resources.

Long Term Care Facilities:

Long term care facilities are very involved in Licensed Nursing Assistant and other programs to develop their own workforce. While these education programs assist in keeping vacancy levels down, they place significant strain on organizational resources. Unlike hospitals, long term care facilities lack centralized human resources departments. Most often, individual units or departments are responsible for their own hiring processes and do not have effective retention strategies. Additionally, long term care is a highly regulated industry and while minimum staffing standards have been established to assure patient care, they often place significant stress on staff. For certain professions and particular shifts, such as night and evening nursing, one staff person calling in sick can put an entire unit below minimum staffing levels. Finally, the public image of long term care employment and of long term care overall is still less than favorable, providing a deterrent for professionals considering this career path.

Home Health Agencies:

Home healthcare settings can promote high injury rates as the work environment is not conducive to good body mechanics. This increases turnover and promotes an environment where workers compensation rates are quite high. At one time in home health's past, it was not expected that people work nights or weekends. As the delivery of care continues to evolve, night and weekend shifts have become commonplace, and are increasingly difficult to fill. On the other hand, the positive image of home health care jobs remains an asset in recruiting staff.

Dental Offices and Clinics:

For professionals in the field of dentistry, the adequacy of the workforce and access to services is much more contingent upon issues such as public policy and scope of service than conventional medical professions. As a result, the workforce needs to be looked at in light of a number of factors, including public policy for funding oral health services, future population growth, demographic shifts of the workforce (aging, retirement etc), economic growth (challenges to recruitment or more disposable income for consumers choosing elective or cosmetic treatments), and improved productivity in the delivery of services. Given the current context in Vermont and what we currently know about supply and demand, there appears to be a shortage of dentists that could well become worse, however, dental hygienists and dental assistants seem to be in adequate supply.

Mental Health and Substance Abuse Settings:

These include such facilities as community mental health centers, private offices and clinics. Mental health and substance abuse professionals provide care within a complex, changing and challenging environment. While some of this care is provided within traditional medical practice models, most mental and behavioral health care is provided in systems that are parallel but quite separate from those for physical health care. Based on general workforce data, the growth in demand for mental health and substance abuse professionals may be significant. However, estimates may be inexact since they do not consider factors such as shifts in the market, creation of new work settings, expanded scopes of practice or other factors. Because this report focuses on professions in the physical health system, there was little information collected about the pressures and challenges on the Vermont mental health and substance abuse workforce. The report recognizes the noticeable absence of this important information and includes recommendations for future work in this area.

Schools:

Schools have increasingly become centers for the provision of health and social services as well as education. As regulations and requirements for schools have changed to include provision of health care, the demand for health care professionals has increased. An environment which has been developed to be conducive to learning can be challenging for the delivery of health care. Similar to mental health and substance abuse, absent from this report are the health care professions practicing in our elementary, middle and high schools. The report recognizes the noticeable absence of this important information and includes recommendations for future work in this area.

Physician Offices or Outpatient Clinics:

Similar to many of the other work settings, physician offices do not have the resources to have dedicated centralized recruitment and retention staff. Recruitment and retention needs of this setting are very dependent upon the type of practice. A practice that is privately owned looking to add staff could be very different from a hospital owned practice or one whose mission it is to serve marginalized or underrepresented communities. The types of practice patterns, styles, employment options and populations served make it challenging to recruit and select staff best suited for physician offices and outpatient clinics.

Education Programs:

The healthcare workforce needs to be supported by educational programs and resources to deliver those educational programs. Many education programs and postsecondary schools are experiencing shortages of adequately trained and credentialed faculty. This greatly limits the ability to run programs or to expand programs to meet the supply needs of the system. Often the investment individuals make in time and resources to become PhD level faculty is overshadowed by non-competitive salaries for instructors and professors. Furthermore, joint clinical-faculty appointments are uncommon for most health profession fields. In many educational institutions the population of faculty is aging more rapidly than new faculty are being trained. This phenomenon will produce additional pressure when these individuals begin to retire with the results that programs may be forced to reduce enrollments at a time of increasing worker demand. In order to improve access a number of higher education programs have begun to use distance learning technology in order to make programs available throughout the state. This practice is promising and should be encouraged.

PART III: OVERARCHING FINDINGS AND RECOMMENDATIONS

Observation 1: Youth Career Planning

Many key stakeholders indicated that there were inadequate links between youth in school and healthcare education programs. While most indicated that it was time consuming to cultivate and maintain relationships it was felt to be of value in development of a strong health care education pipeline. A related issue is that many youth as well as the general public do not have an adequate understanding of the array of health care professions, the potential work environments and the existing education programs in the state. As a result, students who may otherwise have chosen a career in healthcare may be unaware that there is a profession well suited to their skills and professional aspirations.

Recommendation:

- Develop systematic statewide partnerships between educational programs and middle and high schools in order to recruit more youth into health careers.
- Develop widespread information dissemination campaign to orient youth, students and the general public to promote the importance of a vibrant healthcare workforce, the types of benefits to a career in healthcare as well as highlight specific high need healthcare professions, their scope of work and the type of people well suited to enter the profession. The UVM AHEC Program health careers directory is an example of a statewide information dissemination initiative which already exists.

Observation 2: Non-Traditional Students

Staff who were educated as non-traditional students were often cited as employees who were the most likely to be retained in their positions as well as more well-rounded and prepared to manage the environment in which they worked. The number of non-traditional students has been growing as people are understanding the stability of and growth of careers in health care or are seeking a career that is more personally satisfying. Either way, non-traditional students and healthcare professionals who have been re-educated in a health profession were greatly valued by employers.

Recommendation:

- Develop targeted programming and recruitment activities to increase the number of non-traditional students or second career professionals in the healthcare workforce.

Observation 3: Workforce Data Collection

Throughout the process of developing this report, from collection of existing data to discussions with professionals and member organizations people remarked at the lack of good supply and demand information. Surveys such as those performed by the Vermont Department of Health often provide valuable information on supply and surveys implemented by the Office of Nursing Workforce Research, Planning and Development provide valuable information on select healthcare workforce demand.

However, considering the potential impact on Vermont's economy, patient safety and healthcare quality these current surveys should be complimented by additional, rigorous and ongoing collection of supply and demand data. Licensing bodies such as the Secretary of State and Department of Health are critical in surveying the supply and distribution of professions requiring licensing or certification. Employers play a role in describing changes in the healthcare environment as well as demand for specific professions. Educational programs contribute to monitoring activities by tracking the origin and final destination of students trained in their programs.

Certification or licensure was often associated with an elevated sense of importance and professionalism for individuals representing state or national member organizations as well as

A Professionally Staffed Healthcare System

individuals working in the field. As a result, most view certification or licensure favorably which can be an important tool in monitoring the supply of professions.

Recommendations:

- Continue collecting and analyzing data through surveys administered by the Department of Health and the Office of Nursing Workforce Research, Planning and Development.
- Work with the Secretary of State, Office of Professional Regulation or other appropriate regulatory entity and healthcare profession member organizations to develop methods to survey and track the supply and distribution of healthcare workforce.
- Work with Office of Nursing Workforce Research, Planning and Development to expand their current survey of employers to track the demand of healthcare workforce by setting.
- Work with Vermont-based and regional education programs to track entry and exit of students from education programs.
- Expand existing monitoring activities to include health care professionals in mental health settings, alcohol and substance abuse settings and educational or school settings.
- Develop new supply and demand models and ways of monitoring and collecting data.
- Work with the UVM AHEC Program to obtain data through their annual primary care survey.

Observation 4: Staff Recruitment

Human resource departments, long term care organizations and home health agencies lack adequate resources to develop and maintain comprehensive recruitment activities. Often times the largest amount of effort is put into the profession that has the greatest number of vacancies or largest impact on the facility or patient. This does not provide adequate time for being proactive with upcoming or emerging workforce needs and shortages.

Recommendations:

- Explore collaborations between employers and between employers and education programs, which are coordinated state or region-wide, to recruit healthcare professionals into Vermont. A collaborative and coordinated approach could provide certain efficiencies and enable employers to become more proactive about recruitment of healthcare professionals.

Observations 5: Workforce Demand Factors

Demands on the health care environment are changing more rapidly than the health care environment can adapt, this effect makes it difficult to distinguish whether data from surveys reflects actual workforce shortages or surplus or whether the factors that drive the hiring patterns (such as reimbursement, shifting of organizational needs, shifting of population needs etc) have shifted more quickly than the organizations can respond. Monitoring **and forecasting** supply and demand of the workforce is more complex than understanding the number of people practicing in a certain profession and the number of employers citing vacancies. Monitoring the growth of chronic disease to assist in predicting healthcare workforce needs is an example of the types of additional influences which should be monitored.

Recommendations:

- Monitor and respond to the policy, population, health status, changes in practice patterns and other influences that could affect supply or demand of the healthcare workforce.
- Develop a plan to collaboratively address these influences with other stakeholders.

Observation 6: Reimbursement for Services

While reimbursement for services was a significant theme in interviews with key stakeholders, the way reimbursement affects recruitment and retention or supply and demand varies by setting. Reimbursement levels and scope of services reimbursed from the state and federal government, such as Medicaid and Medicare, have been an ongoing controversy. Nonetheless, because employers and professional member organizations continue to cite this as a major influence and factor it will be important to understand the barriers and enabling factors related to reimbursement issues.

Recommendations:

- Bring employers, professionals, membership organizations and policymakers together to identify the key issues related to reimbursement and workforce supply and demand.
- Develop strategies to address the impact reimbursement has on workforce supply and demand.

PART IV INDIVIDUAL PROFESSION BRIEFS

Adult and Child Psychiatrists

Profession Overview

- Bachelors degree followed by four years of medical school plus residency education required.
- Education programs are available at UVM
- Residency Programs are available at Fletcher Allen Health Care for adult psychiatry only

Psychiatrists are physicians who specialize in the diagnosis, treatment and prevention of mental illnesses and substance abuse disorders. With a medical background and a focus on mental health, psychiatrists are uniquely qualified to understand how emotional illness is related to the growing understanding of the workings of the mind, brain and body. Psychiatrists may prescribe medications, order laboratory and other tests, and coordinate with other physicians as part of their patients' treatment. Psychiatrists also engage in research to gain further information about the origins of mental illness and to advance treatment.

Main setting(s): Private and public practices

Data Available

- Department of Health, Medical Practice Board licenses all physicians, including psychiatrists.
- There are approximately 150 psychiatrists licensed in the state.
 - Their mean age is 51.
 - 92% report they are accepting new patients.
 - There are no psychiatrists in Grand Isle or Essex counties, in other counties the psychiatrist to population ratio ranges from 6.42 full time equivalents per 100,000 persons in Franklin County to 36.21 full time equivalents per 100,000 persons in Windham County.

Ongoing Data Needed

Data from the Secretary of State, Office of Professional Regulation such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

Data from Vermont education programs such as:

- Number of graduates, program capacity, number of people staying to practice in Vermont, source of students (state, town)

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Qualitative Information

Employment of physicians and surgeons will **grow about as fast as the average** for all occupations through the year 2012 due to continued expansion of the health services industries. The growing and aging population will drive overall growth in the demand for physician services, as consumers continue to demand high levels of care using the latest technologies, diagnostic tests, and therapies.

Opportunities for individuals interested in becoming physicians and surgeons are expected to be favorable. Reports of shortages in some specialties or geographic areas should attract new entrants.

Demand for physicians' services is highly sensitive to changes in consumer preferences, healthcare reimbursement policies, and legislation. For example, if changes to health coverage result in consumers facing higher out-of-pocket costs, they may demand fewer physician services. Demand for physician services may also be tempered by patients relying more on other healthcare providers—such as physician assistants, nurse practitioners, optometrists, and nurse anesthetists—for some healthcare services. However, historically the use of mid-level practitioners has helped meet demands for care but there has not been a concomitant decrease in the number of physicians employed, presumably indicating that total demands for care have increased along with the supply of professionals. Telemedicine could allow physicians to treat patients or consult with other providers remotely. Increasing use of electronic medical records, test and prescription orders, billing, and scheduling could also improve physician productivity. The impact of new technologies on physician productivity has not been extensively studied, however, so the actual effect on the demand for physicians in the workforce is unknown.

Prediction of workforce needs in psychiatry is particularly complicated due to the complexity of the interrelated factors that influence projections. These factors include the epidemiology of mental illnesses, the distribution and supply of practitioners, the effects of managed care, varying definitions of a full-time practitioner and average workload, the accuracy of population projections, the availability of allied health professionals, employment of international medical graduates, and variations in interest in psychiatry as a specialty among physicians in training(1)

Despite the decades-long projection of an increasing utilization of child and adolescent psychiatry services and an undersupply of child and adolescent psychiatrists, the actual growth in supply of child and adolescent psychiatrists has been very slow. Inadequate support in academic institutions, decreasing graduate medical education (GME) funding, decreasing clinical revenues in the managed care environment, and a devalued image of the profession have made academic child and adolescent psychiatry programs struggle for recruitment of both residents and faculty, although child and adolescent psychiatry has made impressive progress in its scientific knowledge base through research, especially in neuroscience and developmental science. While millions of young people suffer from severe mental illnesses, there are only about 6,300 child and adolescent psychiatrists practicing in the United States. There is also a severe maldistribution of child and adolescent psychiatrists, especially in rural and poor, urban areas where access is significantly reduced. By any method of workforce analysis, it is evident that there will continue to be a shortage of child and adolescent psychiatrists well into the future. (2)

Because of the predicted long term shortages in psychiatry, and in particular child psychiatry, local professionals suggest Vermont develop models to most efficiently and effectively utilize child and adolescent psychiatrists.

Observations

Whereas the anecdotal information and data show that there is a great need for adult and child psychiatry, there is also an sense that we need to examine the relationship of psychiatrists to other professions in the health care system in order to maximize their utilization. COGME recommends that more people are trained in the highest need physician specialties – mainly primary care and psychiatry. At the same time, efforts to recruit those people into areas with highest need, in particular rural and remote areas should be enhanced. Finally, there are different models of collaboration between mental health professionals (including psychiatrists, Master level Social Workers and Bachelors prepared

A Professionally Staffed Healthcare System

professionals) and primary care professionals (such as nurses, nurse practitioners and physicians) that should be explored in order to maximize patient coordination, outcomes and efficient utilization.

Recommendations:

- Work with existing programs in the state (such as the UVM Area Health Education Center Program, Educational Loan Repayment and Freeman Scholarship programs) to target maldistribution through the recruitment of physicians into the state and the education of physicians at our academic programs.
- Provide better monitoring of physician workforce in collaboration with the Department of Health in order to more adequately predict physician workforce needs taking into account influences such as rate of educating primary care specialties, patient demand, technological changes and policy related factors.
- Explore models of collaboration among psychiatry and other health professions in order to promote physical and mental health integration.
- Explore how to sustain a variety of delivery modalities of psychiatry services and employment options for psychiatrists such as in community mental health systems, public and private practice settings.
- Create a pipeline which includes development of practice options and opportunities in Vermont communities for psychiatrists.

Contributors and citations:

Bureau of Labor Statistics. <http://stats.bls.gov>

Bill McMains MD, Medical Director, VT Developmental and Mental Health Services

Rod Copeland PhD, DDMHS Transition Coordinator, Vermont Department of Health

Margaret Trautz, Executive Director, Northeastern Vermont AHEC

Mimi Reardon MD, Associate Dean, Office of Primary Care, UVM College of Medicine

David Little MD, Medical Director and Faculty, AHEC Program

Jessica Comai, Director AHEC Program

Madeleine Mongan Vice President for Policy, Vermont Medical Society

1. Wun Jung Kim, M.D., M.P.H., The American Academy of Child and Adolescent Psychiatry Task Force on Workforce Needs; Child and Adolescent Psychiatry Workforce: A Critical Shortage and National Challenge ; Academic Psychiatry 27:277-282, December 2003

2. A. Peter Eveland, Ed.D., G. E. Alan Dever, Ph.D., M.T., Edward Schafer, Ph.D., Collette Sprinkel, M.A., Stephanie Davis, B.B.A. and Michele Rumpf, B.A.; Papers on Rural Psychiatry; Analysis of Health Service Areas: Another Piece of the Psychiatric Workforce Puzzle; Psychiatric Services, 49:956-960, July 1998

Dental Assistants

Profession Overview

- On the job training or formal academic program required
- Dental Assistant and EFDA programs offered at Center for Technology, Essex

Dental assistants work in partnerships with dentists, assisting dentists during procedures. Dental assistants advise patients in postoperative and general oral health care and with certification, the dental assistant can expose radiographs on a patient. Office duties may include obtaining patient medical histories, sterilizing and disinfecting instruments and equipment and preparing trays for various dental procedures. Office responsibilities such as billing and scheduling and laboratory responsibilities such as taking impressions for casts and fabricating temporary crowns could also be part of the dental assistant job.

Expanded Function Dental Assistants (EFDA) – These individuals are Certified Dental Assistants with additional formal education in areas such as the placement of amalgam and composite restoration.

Main setting(s): Private dental practices

Data Available

- Secretary of State, Office of Professional Regulation registers dental assistants.
- According to the Office of Professional Regulation there were approximately 775 dental assistants registered with the State in 2003.
- The Bureau of Labor Statistics reports:
 - The number of job openings will grow much faster than average
 - Demand for dental assistants will exceed supply by the year 2012

Ongoing Data Needed

Data from the Secretary of State, Office of Professional Regulation such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

Data from Vermont education programs such as:

- Number of graduates, program capacity, number of people staying to practice in Vermont

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Qualitative Information

In Vermont, certification (versus registration) is not required for practice as a dental assistant and the majority of people holding these positions are given on the job training rather than attend a formal academic program. Access to dental care is much more contingent upon issues such as public policy and scope of service than the medical system. Unlike the medical field where physicians are often employed by hospitals or other non profit entities that have an obligation to see patients regardless of their ability to pay, and may be larger or more diverse in their staff and funding in order to shift costs associated with low reimbursement or uncompensated care, the field of dentistry has less opportunities for that type of flexibility. As a result, the adequacy of the workforce needs to be looked at given a

A Professionally Staffed Healthcare System

number of factors, including public policy for funding of oral health services, future population growth, demographic shifts of the workforce (aging, retirement etc), economic growth (challenges to recruitment or more disposable income for consumers choosing elective or cosmetic treatments), growth and changes in productivity. Given the current context in Vermont and what we currently know about supply and demand, the profession does not feel we are experiencing shortages of notable proportion, however, predicting the future need and adequacy of the workforce will be important as overall demand for oral health services changes.

Observations

Interviews with key people in the field indicate that there is not a current shortage of dental assistants in Vermont. The future employment and demand for dental assistants will be dependent on the number of dentists that can be recruited into the state, based upon current supervision requirements.

Recommendations

- Better monitor the Vermont environment and the changes that could affect workforce supply and demand.
- Better monitor the workforce to understand current supply of dental assistants.
- If additional training capacity becomes necessary, consider expanding availability of training program to other parts of the state.

Bureau of Labor Statistics. <http://stats.bls.gov>

Crystal Pierce, CDA President, Vermont Dental Assistant Association

Tracy Tessier, RDH, President, Vermont Dental Hygienist Association and Faculty, Essex Center for Technology

Robin Perez, RDH, President-elect, Vermont Dental Hygienist Association and Public Health Dental Hygienist

Peter Taylor, Executive Director, Vermont Dental Society

Dental Hygienists

Profession Overview

- Associate or Bachelors Degree required
- Programs offered through Vermont Technical College in Chittenden County

Dental hygienists work with dentists as part of the dental health team to help patients of all ages sustain and improve their personal oral health. Most oral diseases, such as dental decay and gum diseases are actually chronic infections that can be prevented. Hygienists help patients learn about these oral diseases and teach personal self-care procedures to help them understand, prevent and treat these conditions. Hygienists provide direct patient care such as examining the teeth and gums, cleaning the teeth, applying fluorides and sealants, and making diagnostic x-rays.

Main setting(s): Private dental practices

Data Available

- A June 2002 Workforce Needs Assessment Study conducted by the Vermont Dental Society indicated:
 - Maldistribution of dental hygienists in the state
 - Fragility, particularly in rural or remote areas – when a dentist loses a hygienist they change from having an adequate workforce to crisis – few dental practices have excess capacity.
- The Secretary of State, Office of Professional Regulation licenses dental hygienists.
- There are approximately 640 dental hygienists licensed in the state.
- The Bureau of Labor Statistics reports:
 - Job openings will grow much faster than average
 - Future demand will exceed supply

Ongoing Data Needed

Data from the Secretary of State, Office of Professional Regulation such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

Data from Vermont education programs such as:

- Number of graduates, program capacity, number of people staying to practice in Vermont, source of students (state, town)

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Qualitative Information

Access to dental care is much more contingent upon issues such as public policy and scope of service than the medical system. Unlike the medical field where physicians can often be employed by hospitals or other non profit entities that have an obligation to see patients regardless of their ability to pay, and may be larger or more diverse in their staff and funding in order to shift costs associated with low reimbursement or uncompensated care, the field of dentistry has less opportunities for that type of flexibility. As a result, the adequacy of the workforce needs to be looked at given a number of factors, including public policy for funding of oral health services, future population growth, demographic shifts

A Professionally Staffed Healthcare System

of the workforce (aging, retirement etc), economic growth (challenges to recruitment or more disposable income for consumers choosing elective or cosmetic treatments), growth and changes in productivity. Given the current context in Vermont and what we currently know about supply and demand, the profession does not feel we are experiencing shortages of notable proportion, however, predicting the future need and adequacy of the workforce (including any changes in context) will be important as overall demand for oral health services changes. This opinion is similar regarding needs nationwide. Access has become an increasingly important issue in dentistry, hygienists feel that in relation to access, they are an underutilized profession.

Observations

Both local and national stakeholders feel that shortages exist in rural areas, exists, however, there may not be shortages of the same magnitude in urban areas. Growing public and policymaker concern for access to oral health services and improvement of oral health status could stimulate changes such as review of scope of practice or promotion of independent practice in order to more highly utilize dental hygienists to address the growing access concerns. Once again, locally and nationally, professionals in the field feel strongly that it is when dentists, hygienists, and state policymakers come to the table to address problems that real viable solutions occur.

Recommendations:

- Better monitor the workforce to understand current supply and demand of dental hygienists.
- Bring together the professions in dentistry to develop strategies addressing public and policymaker concerns regarding access and oral health status.
- Develop incentives, targeted recruitment, and education of middle and high school students in rural areas in order to address the maldistribution of the profession.

Contributors:

Bureau of Labor Statistics. <http://stats.bls.gov>

Tracy Tessier, RDH, President, Vermont Dental Hygienist Association and Faculty, Essex Center for Technology

Robin Perez, RDH, President-elect, Vermont Dental Hygienist Association and Public Health Dental Hygienist

Ann Battrell, Director of Education, American Dental Hygienist Association

Peter Taylor, Executive Director, Vermont State Dental Society

Dentists

Profession Overview

- Most often a Bachelors degree followed by four years of Dental school, with some exceptions, is required
- Specialization can require 2 – 4 years of additional education
- There are no dental schools in Vermont
- Fletcher Allen Health Care has a Residency Program

Dentistry is defined as the evaluation, diagnosis, prevention and/or treatment (nonsurgical, surgical or related procedures) of diseases, disorders and/or conditions of the oral cavity, maxillofacial area and/or the adjacent and associated structures and their impact on the human body; provided by a dentist, within the scope of his/her education, training and experience, in accordance with the ethics of the profession and applicable law. Dentists also screen patients for cancers and disorders of the jaw and bones around the face, use preventive procedures and they teach their patients how to take good care of their gums and teeth to avoid problems between checkups. Dentistry makes use of high tech equipment to help people keep or restore proper oral health. Most dentists are general practitioners; however, some dentists choose to practice in an area of specialty.

Main setting(s): Private dental practices

Data Available

- Secretary of State, Office of Professional Regulation licenses dentists in conjunction with the Dental Practice Board.
- According to the Office of Professional Regulation there were approximately 547 dentists licensed in Vermont in 2003, of which approximately 80% are generalists or primary care dentists.
- A biennial licensing survey is conducted in collaboration with the Vermont Department of Health which includes:
 - Age, geographic location, number of hours and weeks working, anticipated retirement, seeking an associate, specialty, whether dentists are taking Medicaid patients, any new patients and many more data elements.
- Select Department of Health data shows:
 - Increases in the number of dentists approaching retirement age
 - Decreases in the number of dentists per capita
 - Increases in the number of dentists unsuccessfully recruiting new dentists to their practice.
 - Maldistribution of dentists within the state
- In addition, the Department of Health monitors utilization for people enrolled in the Medicaid Program by measuring the number of people accessing services.
 - In Vermont state fiscal year 2002 approximately 26% of adults and 47% of children enrolled in a Medicaid Program saw a dentist in the past twelve months. This compares to a national average of approximately 20%-25%.
- The American Dental Association survey of dentists reports:
 - overall adequate workforce nationwide
 - maldistribution in the New England area

A Professionally Staffed Healthcare System

- The Bureau of Labor Statistics reports:
 - Job openings will grow more slowly than average
 - There will be a relative balance of supply and demand in the future

Ongoing Data Needed

Data from the Secretary of State, Office of Professional Regulation such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

Data from Vermont education programs such as:

- Number of graduates, program capacity, number of people staying to practice in Vermont, source of students (state, town)

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Qualitative Information

New England sends fewer students to dental schools than any other region, as a result, we are much more dependent on the importation of people who are not originally from Vermont. Dental school graduates from a school in New England are more likely to leave New England, we are overall an exporter of dental school graduates. In 2004 four Vermonters were attending dental school. The vast majority of dentists are employed in small one or two dentist practices with full responsibility for management, patient care and long term planning for recruitment of new dentists. Certain specialties are in high need or will be in a higher demand in the future, these include: general dentists, pediatric dentists, oral surgeons and endodontists.

Access to dental care is much more contingent upon issues such as public policy and scope of service than medical care. Unlike the medical field where physicians can often be employed by hospitals or other non profit entities that have an obligation to see patients regardless of their ability to pay, and may be larger or more diverse in their staff and funding in order to shift costs associated with low reimbursement or uncompensated care, the field of dentistry has less opportunities for that type of flexibility. As a result, the adequacy of the workforce needs to be looked at given a number of factors, including public policy for funding of oral health services, future population growth, demographic shifts of the workforce (aging, retirement etc), economic growth (challenges to recruitment or more disposable income for consumers choosing elective or cosmetic treatments), growth and changes in productivity. The mix of specialist and generalist dentists is important in recruiting dentists into the state. In particular, general dentists will be sensitive to relocating to an area where there are adequate specialists to refer their patients.

Observations:

Predicting the workforce needs of dentistry can be complex and there are a number of programs which have been developed in Vermont to address workforce supply but they do not assist in prediction of the workforce needs of dentistry. Initiatives have included educational loan repayment and demonstration projects for recruitment and retention of dentists. There should be continued monitoring of the workforce as well as the policies and financial conditions that affect access to and demand for services in order to predict workforce supply and demand. While the Bureau of Labor Statistics states that nationwide there will be adequate number of dentists, in Vermont given the current environment, there is clearly a current and future shortage of dentists which will take a multifaceted approach to address.

Recommendations:

Healthcare Workforce Partnership – Human Resources Investment Council

A Professionally Staffed Healthcare System

- Provide more support and continue existing efforts for recruitment of dentists into the state, particularly to replace those dentists approaching retirement.
- Enhance the recruitment of Vermonters to study dentistry and return to Vermont to practice.
- Evaluate existing workforce initiatives, policies, programs and funding for their viability and direct resources to the most successful and effective areas.
- Develop additional tools to inform and persuade dentists to begin practice in Vermont.
- Continue programs such as the Educational Loan Repayment Program administered by the UVM AHEC Program.

Contributors:

Bureau of Labor Statistics. <http://stats.bls.gov>

Peter Taylor, Executive Director, Vermont State Dental Society

Tracy Tessier, RDH, President, Vermont Dental Hygienist Association and Faculty, Essex Center for Technology

Robin Perez, RDH, President-elect, Vermont Dental Hygienist Association and Public Health Dental Hygienist

Dietetic Technician

Profession Overview

- Associates degree required.
- There are no education programs in Vermont

Dietetic technicians work under the supervision of a registered dietitian to help plan, implement, and assess nutritional programs and services. The technician screens patients to identify nutritional problems and provides patient education and counseling to individuals or groups. They may oversee food service personnel and be responsible for monitoring food inventories and ordering supplies.

Main setting(s): Hospitals, nursing homes

Data Available

- The Secretary of State, Office of Professional Regulation does not register or license dietetic technicians.
- The UVM Office of Nursing Workforce Research, Planning and Development conducted a survey in 2003 and reported:
 - an 18% vacancy rate and 70% turnover rate in hospital settings; representing the profession with highest turnover in the hospital settings
- The Bureau of Labor Statistics reports:
 - the number of new jobs opening will grow as fast as average job growth
 - the number of dietetic technicians nationwide were 29,000 in 2001
- The American Dietetic Association reports:
 - Employment in hospitals is expected to show little change because of anticipated slow growth and patients' reduced lengths of hospital stay. Faster growth is anticipated in nursing homes and residential care facilities.

Ongoing Data Needed

Data from the Secretary of State, Office of Professional Regulation such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

Data from Vermont education programs such as:

- Number of graduates, program capacity, number of people staying to practice in Vermont, source of students (state, town)

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Qualitative Information

The role of the dietetic technician would appear to be in flux, based upon changes in the hospital and health care environment. To stay competitive and better meet patient needs, hospitals are shifting to point of service nutrition assessment and delivery which will force them to look at the role of dietetic technicians, food service workers and dietitians differently. Hospitals need professionals whose role it is to manage food service for individual patients; to assess, help choose and deliver meals closer to the point of service as food and nutrition needs of people in hospitals can change in short periods of time.

A Professionally Staffed Healthcare System

Patients need the continuity of one person overseeing this process. This creates some challenges as the training of the dietetic tech is too high for certain portions of this type of delivery system and the training of food service workers too low for them to take responsibility.

High vacancy and turnover rates may be contributed to by the use of students to fill positions.

Education of new dietetic technicians is a lengthy and resource consuming process, particularly if the dietetic tech is using the position as a stepping stone to another career.

Observations

High vacancy and turnover rates might initially indicate that there should be increased effort in the recruitment and retention of dietetic techs. However, changes in the delivery system and the lack of standardization regarding current and future roles and responsibilities of dietetic techs are the basis of the following recommendations:

Recommendations

- Evaluate needs of hospitals nursing homes and the roles needed to operate their nutrition and food service programs.
- Improve knowledge regarding supply and demand of nutrition and food service program staff.

Contributors:

Bureau of Labor Statistics. <http://stats.bls.gov>

Robin Edelman, MS, RD, CDE, Diabetes Program Administrator, Vermont Department of Health

Sylvia Gaborio, Central Vermont Hospital

Beverly Mitchell, MBA, RD, Director, Accreditation, Education Programs and Student Operations, American Dietetic Association

Licensed Practical Nurse

Profession Overview

- Vermont Technical College, in collaboration with CCV offers a program for licensed practical nurses

Licensed practical nurses provide basic bedside care to patients whose common recurring conditions are generally stable. After licensure, licensed practical nurses typically find employment in a hospital, long-term care facility or another health care organization. They work under the supervision of physicians, dentists, or registered nurses, who might ask a licensed practical nurse to administer medications orally or by injection, and provide a wide range of physical treatment and care. A licensed practical nurse will also provide the patient and family with information about medical conditions, treatment and care. In the hospital setting, for example, a licensed practical nurse will take patients' vital signs, monitor patients' responses to medication and other treatments, or help patients with personal hygiene. They will also help registered nurses develop or change a patient's plan of care.

Main setting(s): Hospitals, home health, long term care facilities, private or public physician offices.

Data Available:

- Secretary of State, Office of Professional Regulation licenses practical nurses.
- According to the Office of Professional Regulation, there were approximately 2,033 licensed practical nurses in Vermont in 2003.
- The UVM Office of Nursing Workforce Research, Planning and Development conducted a survey in 2003 and reported:
 - The highest vacancy rate and turnover rates for licensed practical nurses occurred in Home Health at rates of 24% and 38% respectively.
- The UVM Office of Nursing Workforce Research, Planning and Development conducted a relicensure survey in 2002 and reported:
 - The median age is 46 years, with 72% over 40 years.
 - 14.5% reported 'somewhat likely' or 'very likely' to leave their position in the next year.
- The Bureau of labor statistics reports:
 - Nursing care facilities will offer the most new jobs.
 - Applicants for jobs in hospitals may face competition as hospitals hire fewer LPNs
 - Employment of licensed practical nurses is expected to [grow about as fast as the average](#) for all occupations through 2012 in response to the long-term care needs of an increasing elderly population and the general growth of healthcare.
 - Replacement needs will be a major source of job openings, as many workers leave the occupation permanently

Ongoing Data Needed:

Data from the Secretary of State, Office of Professional Regulation such as:

A Professionally Staffed Healthcare System

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

Data from Vermont education programs such as:

- Number of graduates, program capacity, number of people staying to practice in Vermont, source of students (state, town)

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Qualitative Information:

In 2000 the Vermont Blue Ribbon Nursing Commission was appointed by the Secretary of the Vermont Agency of Human Services, in January of 2001 their report: A Call to Action: Addressing Vermont's Nursing Shortage, was developed. The report outlined a number of salient supply, demand, recruitment and retention issues facing the Vermont healthcare environment including the impact of the aging workforce, increased utilization of nurses and a shift to nurses spending more time performing administrative duties and less time caring for patients. Commonly, other issues relevant for nurses are the unhappiness with many aspects of the work environment including staffing levels, heavy workloads, increased use of overtime, lack of sufficient support staff, adequate wages, flexibility of their schedules and professional respect. Finally, licensed practical nursing programs traditionally have a larger proportion of nontraditional students.

Recommendations:

Below are the recommendations made by the Blue Ribbon Commission that have been implemented to date and continued support is recommended:

- Create a Center for Nursing located at the University of Vermont in collaboration with the Vermont State Colleges to address ongoing supply, education, practice and research.
- Form a state-funded Vermont Nursing Education Loan Forgiveness Program. The UVM AHEC Program is currently administering Educational Loan Repayment for nurses while VSAC is administering a Loan Forgiveness Program for nurses in the form of scholarships.
- Develop an aggressive fundraising effort to raise scholarship support for nursing students from private sources. (Freeman Scholarship)

Some work has been done on the following recommendations and continued efforts in these areas are needed:

- Establish a partnership between the State of Vermont, health care providers, educators, and other health care partners to fund a comprehensive program to promote the profession of nursing.
- Increase state funding to expand nursing education programs so they can prepare more students.
- Increase nurse salaries to retain current nurses and attract new nurses into the profession.

Contributors:

Bureau of Labor Statistics. <http://stats.bls.gov>

A Professionally Staffed Healthcare System

A Call to Action: Addressing Vermont's Nursing Shortage. January 2001. The Report and Recommendations of the Blue Ribbon Nursing Commission.
Mary Val Palumbo, UVM Office of Nursing Workforce Research, Planning and Development.

Registered Nurse

Profession Overview

- Associate degree programs available at Castleton State College (the Castleton program is also offered at Lyndon State College), Southern Vermont College, and Vermont Technical College in collaboration with Community College of Vermont
- Bachelor degree programs are available at Norwich University, Southern Vermont College and the University of Vermont

Registered nurses administer medications, perform life-saving procedures, promote health, prevent disease, and help people cope with illness, life changes and death. Nurses are advocates and educators for patients, families and communities. Nurses practice in a variety of settings where they can provide care to patients 24 hours a day or on an as needed basis. They develop and manage nursing care plans for patients that combine the treatment prescribed by the physician with the nursing needs that have been identified. Nurses also teach patients and their families about their conditions, particularly how to care for themselves, how to prevent complications, and when to seek further advice from a health care professional. Nurses coordinate the activities of other members of the health care team, often supervising licensed practical nurses and licensed nursing assistants. Some registered nurses work for local, state or international public health agencies, where they monitor communicable diseases, assist with evaluating air and water quality efforts, teach people in the community about healthy choices, and disease prevention.

Main Setting(s): Hospitals, home health, long term care facilities, public and private practices.

Data Available:

- Secretary of State, Office of Professional Regulation licenses registered nurses.
- According to the Office of Professional Regulation, there were approximately 7,748 registered nurses in Vermont in 2003.
- The UVM Office of Nursing Workforce Research, Planning and Development conducted a survey in 2003 and reported:
 - The highest vacancy rate and turnover rates for registered nurses occurred in long term care facilities at rates of 19% and 35% respectively.
- The UVM Office of Nursing Workforce Research, Planning and Development conducted a relicensure survey in 2002 and reported:
 - Mean age of registered nurses was 47 years, with 76% over 40 years.
 - 22% reported they were ‘somewhat likely’ or ‘very likely’ to leave their position in the next 12 months.
- The Bureau of labor statistics reports:
 - Registered nurses constitute the largest healthcare occupation, with 2.3 million jobs.
 - More new jobs are expected to be created for registered nurses than for any other occupation.
 - Job opportunities are expected to be very good.
 - Employment of registered nurses is expected to [grow faster than the average](#) for all occupations through 2012, and because the occupation is very large, many new jobs will result.

A Professionally Staffed Healthcare System

- Thousands of job openings also will result from the need to replace experienced nurses who leave the occupation, especially as the median age of the registered nurse population continues to rise.

Ongoing Data Needed:

Data from the Secretary of State, Office of Professional Regulation such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

Data from Vermont education programs such as:

- Number of graduates, program capacity, number of people staying to practice in Vermont, source of students (state, town)

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Qualitative Information:

In 2000 the Vermont Blue Ribbon Nursing Commission was appointed by the Secretary of the Vermont Agency of Human Services, in January of 2001 their report: A Call to Action: Addressing Vermont's Nursing Shortage, was developed. The report outlined a number of salient supply, demand, recruitment and retention issues facing the Vermont healthcare environment including the impact of the aging workforce, increased utilization of nurses and a shift to nurses spending more time performing administrative duties and less time caring for patients. Commonly, other issues relevant for nurses are the unhappiness with many aspects of the work environment including staffing levels, heavy workloads, increased use of overtime, lack of sufficient support staff, inadequate wages, inflexibility of their schedules and feeling a lack of professional respect.

Recommendations:

Below are the recommendations made by the Blue Ribbon Commission that have been implemented to date and continued support is recommended:

- Create a Center for Nursing located at the University of Vermont in collaboration with the Vermont State Colleges to address ongoing supply, education, practice and research.
- Form a state-funded Vermont Nursing Education Loan Forgiveness Program. Form a state-funded Vermont Nursing Education Loan Forgiveness Program. The UVM AHEC Program is currently administering Educational Loan Repayment for nurses while VSAC is administering a Loan Forgiveness Program for nurses in the form of scholarships.
- Develop an aggressive fundraising effort to raise scholarship support for nursing students from private sources. (Freeman Scholarship)

Some work has been done on the following recommendations and continued efforts in these areas are needed:

- Establish a partnership between the State of Vermont, health care providers, educators, and other health care partners to fund a comprehensive program to promote the profession of nursing.
- Increase state funding to expand nursing education programs so they can prepare more students.

Healthcare Workforce Partnership – Human Resources Investment Council

A Professionally Staffed Healthcare System

- Increase nurse salaries to retain current nurses and attract new nurses into the profession.

Contributors:

Bureau of Labor Statistics. <http://stats.bls.gov>

A Call to Action: Addressing Vermont's Nursing Shortage. January 2001. The Report and Recommendations of the Blue Ribbon Nursing Commission.

Mary Val Palumbo, UVM Office of Nursing Workforce Research, Planning and Development.

Psychiatric Nurse Practitioner

Profession Overview

- There are no education programs for Psychiatric Nurse Practitioners in Vermont

Advanced Practice Registered Nurses (APRN) have a Master's degree in psychiatric-mental health nursing. Psychiatric-Mental Health Nursing (PMHN) is considered a "Specialty" in nursing. Specialty practice is part of the course work in a Master's Degree Program. In working with psychiatric clients or patients, bachelors level nurses assist them with self care, medication prescription and medication administration, teach about health and mental health individually or in groups, including psycho-education. Basic level nurses are also prepared to assist with crisis intervention, counseling and work as case managers. In addition to the functions performed at the basic level, APRN's assess, diagnose, and treat individuals or families with psychiatric problems/disorders or the potential for such disorders. They provide a full range of primary mental health care services to individuals, families, groups and communities, function as psychotherapists, educators, consultants, advanced case managers, and administrators. In many states, APRN's have the authority to prescribe medications.

Main setting(s): Hospitals, home health agencies, long term care facilities, private or public medical offices, community mental health centers.

Data Available:

- Secretary of State, Office of Professional Regulation all Advanced Practice Nurses.
- According to the 2002 Vermont Department of Health Advanced Practice Nurse licensing survey:
 - There were 37 Advanced Practice Nurses specializing in mental health, this number is down from 38 in 2000.
 - The median age of all Advance Practice Nurses was 48.
 - 43% of all Advanced Practice Nurses worked 30 hours or less per week.
 - The number of Advanced Practice Nurses working over 30 hours per week has increased from the 2000 to the 2002 licensing survey.
- The UVM Office of Nursing Workforce, Research, Planning and Development conducted a survey in 2003 and found the following.

APRN in psychiatric or mental health patient care:

- n = 18
- 59% work in population density of 51-100 people per square mile
- 94% female, 95% over 40 years old,
- Practice settings : Mental Health Center - 38%, Independent Practice – 33%, Hospital – 22%, Combination - 5%
- 88% (15) Satisfied, 17% (3) Likely to leave
- Hospitals cited psychiatric nursing as the 6th most needed specialty, averaging 19 weeks to fill.

Ongoing Data Needed:

Data from the Secretary of State, Office of Professional Regulation such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Observations:

The demand for psychiatric nurse practitioners will continue to be effected by a number of factors including:

- The ongoing shortage of adult and child psychiatrists.
- The increasing diagnosis and early recognition of mental health issues in adults, children and seniors.
- The increasing advances in brain research which will offer more treatment options and modalities.

As with psychiatrists, if psychiatric nurse practitioners were expected to see each adult and child for an assessment, the need would never be met. As a result, until the workforce increases, it will be important for other health care professionals to provide select services, such as mental health assessment, in order to most effectively and efficiently use the resources of the psychiatric nurse practitioner workforce. However, with the acuity of mental health patients in the inpatient setting increasing and stays decreasing, having psychiatric nurse practitioners see only the sickest of the sick will certainly lead to burnout and a less than appealing career path. A balance of effective utilization of psychiatric nurse practitioners as specialists with realistic expectations will need to be developed.

Recommendations:

- Provide better monitoring of workforce in collaboration with the Department of Health in order to more adequately predict psychiatric nurse practitioner workforce needs taking into account influences such as rate of education of specialties, patient demand, technological changes and policy related factors.
- Explore models of collaboration among other health professions in order to promote physical and mental health integration.
- Develop education opportunities to assist non mental health specialists in addressing mental health issues more extensively within the scope of their practice in order to utilize psychiatric nurse practitioners more effectively.
- Assess the feasibility of collaborating with regional education programs to offer certificate programs in mental health for existing advanced practice nurses and the provision of an APRN educational program.
- Continue to use resources such as State Educational Loan Repayment Programs administered by the UVM AHEC Program to target the recruitment and retention of psychiatric nurse practitioners.
- Develop other incentives such as scholarships and expanded financial assistance.

Contributors:

A Professionally Staffed Healthcare System

Bureau of Labor Statistics. <http://stats.bls.gov>

Dodie Malone-Rising, APRN, Johnson Health Clinic and Diabetes Center

Gabrielle Mikula, MS, APRN – Family Nurse Practitioner, Given Health Care, Fletcher Allen Health Care

Jane White RN, CS, DNSc – Executive Director, American Psychiatric Nurse Association

Mary Val Palumbo MSN, APRN, Office of Nursing Workforce

Medical Laboratory Technician

- Certificate Program or Associate Degree required
- There are no Medical Laboratory Technician education programs in Vermont

Profession Overview

Medical laboratory technicians perform laboratory testing that helps to detect, diagnose and treat disease. Working under the supervision of medical laboratory technologists or laboratory managers, technicians prepare specimens for study and operate automated analyzers, for example. They may also perform manual tests on blood, tissue and other body substances, following detailed instructions. Medical laboratory technicians may work in various areas of the laboratory or they may specialize in one area. For example, histology technicians cut and stain tissue samples for microscopic examination by pathologists while phlebotomists collect blood samples.

Main setting(s): Hospitals

Data Available

- Secretary of State, Office of Professional Regulation does not license medical laboratory technicians.
- The UVM Office of Nursing Workforce Research, Planning and Development conducted a survey in 2003 and reported:
 - A 5% vacancy rate and 11% turnover rate in hospitals.
- The Bureau of Labor Statistics projected needs for medical laboratory technicians to 2012 and reported
 - Job opportunities are expected to be excellent, because the number of job openings is expected to continue to exceed the number of job seekers.
 - Average employment growth is expected as the volume of laboratory tests increases with both population growth and the development of new types of tests.
 - Although hospitals are expected to continue to be the major employer of clinical laboratory workers, employment is expected to grow faster in medical and diagnostic laboratories, offices of physicians, and other ambulatory health care services, including blood and organ banks.

Ongoing Data Needed

Data from the Secretary of State, Office of Professional Regulation such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Observations

Nationally and locally there appears to be supply and demand issues for this profession. The profession is not very visible and not very competitive for salaries, making choice of this profession unlikely, even for students interested in math and science. Cultivation of students into education programs should target individuals who:

A Professionally Staffed Healthcare System

- Understand the demands of the hospital system and the nature of work that supports 24/7 patient care.
- Have a desire to help people and make a difference but do not want to provide bedside care.
- Enjoy the type of “detective” work that this type of work can entail.

There are no education programs in the state, in areas where there are education programs, recruitment and retention of professionals are less of an issue. Work environments that tend to support professional participation in state meetings, learn new science, meet others in their field and support the advancement within their own field retain more people in their organization.

Medical Laboratory Technicians and Medical Laboratory Technologists work in collaboration to provide laboratory testing, however, the mixes of these professions is inconsistent depending on the setting and the site. This is a result of the lack of standards or understanding of the most effective as well as efficient mix of laboratory professionals.

Recommendations:

- Develop best practice guidelines for the retention of medical laboratory technicians in the hospital setting.
- Develop standards for the most efficient and effective mix of laboratory professionals.
- Collaborate with out of state education programs to enhance the recruitment of professionals to Vermont or enhance the number of Vermonters trained in the profession.
- Work with local professional organizations, Secretary of State and employers to improve the monitoring of workforce supply and demand.

Contributors:

Bureau of Labor Statistics. <http://stats.bls.gov>

Vermont Hospital Human Resource Directors

Denise Cartelli – President, Vermont Society for Clinical Laboratory Science

Burton Wilcke, PhD – Associate Professor and Chair, Department of Biomedical Technologies, UVM

Bob Bessette – Northwestern Medical Center

Elissa Passiment, EdM, CLS – Executive Vice President, American Society for Clinical Laboratory Science

Medical Laboratory Technologist

- Bachelor degree required.
- Education program at the University of Vermont Department of Biomedical Technologies, College of Nursing and Health Sciences

Profession Overview

Medical laboratory technologists work behind the scenes of patient care, usually in a laboratory setting. They are the “lab detectives” who perform chemical tests on tissue samples, blood and other bodily fluids in order to provide doctors with the information they need to diagnose, treat, and monitor a patient’s condition. They use automated equipment and instruments capable of conducting a number of tests at once, in addition to using microscopes, cell counters and other high tech laboratory equipment. With the use of technology, the work of a medical lab technologist has become less “hands on” and more analytical.

Main setting(s): Hospitals

Data Available

- Secretary of State, Office of Professional Regulation does not license medical laboratory technologists.
- The UVM Office of Nursing Workforce Research, Planning and Development conducted a survey in 2003 and reported:
 - An 11% vacancy rate and 5% turnover rate in hospitals.
- The Bureau of Labor Statistics projected needs for medical laboratory technologists to 2012 and reported
 - Job opportunities are expected to be excellent, because the number of job openings is expected to continue to exceed the number of job seekers.
 - Average employment growth is expected as the volume of laboratory tests increases with both population growth and the development of new types of tests.
 - Although hospitals are expected to continue to be the major employer of clinical laboratory workers, employment is expected to grow faster in medical and diagnostic laboratories, offices of physicians, and other ambulatory health care services, including blood and organ banks.

Ongoing Data Needed

Data from the Secretary of State, Office of Professional Regulation or other authorized agent such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field.

Data from Vermont education programs such as:

- Number of graduates, program capacity, number of people staying to practice in Vermont, source of students (state, town)

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Observations

A Professionally Staffed Healthcare System

Nationally and locally there appears to be supply and demand issues for this profession. The profession is not very visible and not very competitive for salaries, making choice of this profession unlikely, even for students interested in math and science. Cultivation of students into education programs should target individuals who:

- Understand the demands of the hospital system and the nature of work that supports 24/7 patient care.
- Have a desire to help people and make a difference but do not want to provide bedside care.
- Enjoy the type of “detective” work that this type of work can entail.

Nationally the medical laboratory technologist education programs are under enrolled even though there is unmet need and projected shortages. Vermont’s experience with under enrollment is similar. Work environments that tend to support professional participation in state meetings, learn new science, meet others in their field and support the advancement within their own field retain more people in their organization.

Medical Laboratory Technicians and Medical Laboratory Technologists work in collaboration to provide laboratory testing, however, the mixes of these professions is inconsistent depending on the setting and the site. This is a result of the lack of standards or understanding of the most effective as well as efficient mix of laboratory professionals.

Recommendations:

- Develop best practice guidelines for the retention of medical laboratory technologists in the hospital setting.
- Develop standards for the most efficient and effective mix of laboratory professionals.
- Work with local professional organizations, Secretary of State and employers to improve the monitoring of workforce supply and demand.
- Enhance understanding of the profession and targeting of students best suited for the profession in order to increase entry into the field.

Contributors:

Bureau of Labor Statistics. <http://stats.bls.gov>

Denise Cartelli – President, Vermont Society for Clinical Laboratory Science

Burton Wilcke, PhD – Associate Professor and Chair, Department of Biomedical Technologies, UVM

Bob Bessette – Northwestern Medical Center

Elissa Passiment, EdM, CLS – Executive Vice President, American Society for Clinical Laboratory Science

Occupational Therapist

Profession Overview

- Bachelors degree required
- There are no education programs in Vermont, although there are opportunities for Occupational Therapist clinical rotations in Vermont for out of state students.

Occupational therapists work with patients who suffer from a disability due to illness, injury, aging or developmental, emotional, or mental challenges. They help people learn (or re-learn) to do every day activities like writing, cooking, and dressing. After observation and testing an occupational therapist will develop a treatment plan to help the patient regain function or overcome a permanent loss of function. Treatment plans may include life and work activities, strength and dexterity exercises, or the design and use of special adaptive equipment to make daily tasks easier.

Occupational therapy assistants work with people who are in some way disabled and need help with the everyday activities of life – things like dressing, eating and getting out of the house. Occupational therapy assistants are supervised by occupational therapists. They work one-on-one with patients to carry out individual treatment plans and also assist occupational therapists during exams and other procedures.

Main setting(s): Long term care, home health, hospitals, schools

Data Available

- Secretary of State, Office of Professional Regulation licenses occupational therapists.
- According to the Office of Professional Regulation there were approximately 254 occupational therapists and 89 occupational therapy assistants licensed in the state in 2003.
- The UVM Office of Nursing Workforce Research, Planning and Development conducted a survey in 2003 and reported:
 - A turnover rate of 38% in the hospital setting, 31% in the home health setting and 17% in the long term care setting.
 - Vacancy rates were much lower at 2%, 0% and 1% per setting respectively.
- The Bureau of Labor Statistics projected needs for occupational therapists to 2012 and reported:
 - Employment is projected to increase faster than the average, as rapid growth in the number of middle-aged and elderly individuals increases the demand for therapeutic services.
 - A bachelor's degree in occupational therapy is the minimum educational requirement; beginning in 2007, however, a master's degree or higher will be required putting additional pressure on workforce supply.
 - Occupational therapists are increasingly taking on supervisory roles.
 - More than a quarter of occupational therapists work part time.

Ongoing Data Needed

Data from the Secretary of State, Office of Professional Regulation such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

A Professionally Staffed Healthcare System

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Qualitative Information

Professionals in Vermont feel that there is more a need for occupational therapy assistants rather than occupational therapists. The difficulty in recruiting occupational therapy assistants has moved many managers to recruitment of occupational therapists based on their availability. Anecdotally people feel that occupational therapists, who receive a four year degree, are generally more mobile and can be recruited from outside Vermont. On the other hand, occupational therapy assistants, who receive a two year degree, generally come from and return to the community in which they were trained. The national membership organization perspective is there is a shortage of occupational therapists based upon the number trained and the number employed, however, based on societies medical needs, the shortages are even greater. Accordingly, the dilemma from the national membership association perspective is that they are interested in meeting the medical needs of society, however, the payment structure, particularly at the federal level, does not reflect this perspective.

Observations

There is a discrepancy between the national association perspective and the employer perspective related to the need for occupational therapists and occupational therapy assistants. This is more clearly understood when you consider the perspective of the national association is on the importance of meeting society's medical needs, and the employer responsibility is to fill positions that provide billable services. To further complicate matters, it would appear that the vacancy and turnover rates of occupational therapists and occupational therapy assistants are reflective of the system accommodating workforce shortages (by hiring occupational therapists when occupational therapy assistants are not available) rather than reflecting the actual workforce supply and demand or the ideal mix of professions. There are other issues related to the volume of occupational therapists employed in the health care setting. For example, because the volume is relatively low, professional camaraderie and peer support doesn't occur in all settings across the state. In effect, this isolation can affect retention of existing professionals.

Recommendations:

- Supply and demand of occupational therapists and assistants should be monitored through efforts such as the UVM Vermont Health Workforce Assessment Survey, collaboration with the state association and Secretary of State, Office of Professional Regulation.
- Need in some settings is represented by what can be recruited versus what is actually needed. Efforts should be made to understand the real need of occupational therapists and occupational therapy assistants.
- Particularly in small organizations or rural and remote areas, models should be explored which enhance the feeling of cohesiveness and support among professionals in order to enhance retention rates.

Contributors:

Bureau of Labor Statistics. <http://stats.bls.gov>

Steve Eyler – Fletcher Allen Health Care

Deb Lieberman – The American Occupational Therapy Association

Personal Care Attendants

Profession Overview

- Many employers will train in anticipation of employment

Personal care attendants (PCAs) care for elderly, newborns and children with special needs, or those with injuries or disabilities, in their own homes. PCAs perform such duties as housekeeping, activities of daily living for the patient, such as personal hygiene, meal preparation, assistance with medications, and laundry. They may accompany a patient to doctor appointments and assist with physical exercise. PCAs work independently under the supervision of a nurse or if privately hired, under direction of the patient.

Main setting(s): Home Health

Data Available:

- Personal care attendants are not licensed or registered in Vermont.
- The UVM Office of Nursing Workforce Research, Planning and Development conducted a survey in 2003 and reported:
 - A 0% vacancy rate and 270% turnover rate, representing the highest turnover rate in Home Health.
- The Bureau of Labor Statistics projected needs for PCAs to 2012 and reported:
 - Excellent job opportunities are expected for this occupation, as rapid employment growth and high replacement needs produce a large number of job openings.
 - Employments is projected to [grow much faster than the average](#) for all occupations through the year 2012 because the number of elderly people, an age group characterized by mounting health problems and requiring some assistance, is projected to rise substantially.

Ongoing Data Needed

Data from the Secretary of State, Office of Professional Regulation or other authorized agent such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

Data from Vermont education programs such as:

- Number of graduates, program capacity, number of people staying to practice in Vermont, source of students (state, town)

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Qualitative Information

An extensive staffing study funded by the Vermont Department of Aging and Disabilities reported on findings of PCAs. Included in the report are the results of several focus groups with people from the professions. Through this project they found that the main factors motivating PCAs were caring for others, knowledge that the work is important, a respectful and caring relationship with clients and flexibility of schedule. Overall the barriers to retention included compensation, working conditions

A Professionally Staffed Healthcare System

such as understaffing or lack of consistent, predictable hours, staff support and development, as well as other issues.

Observations

There will be a continued need for PCAs and while the vacancy rate is low, there are large expenses associated with the recruitment and education of new staff because of the high turnover rates. There has been significant attention to the PCA workforce by the Vermont Department of Aging and Disabilities which continues to have a strong role in health professional assessment, planning and initiatives.

Recommendations:

Collaborative work with the Vermont Department of Aging and Disabilities should include supporting their efforts and priority activities to alleviate the PCA workforce issues. These include:

- Improvement of recruitment and retention strategies.
- Develop targeted compensation strategies.
- Improve working conditions.
- Improve orientation and education programs
- Explore the role of the PCA in other career ladders.
- Support management staff through provision of leadership and supervision educations.

In addition to the goals stated by Vermont Department of Aging and Disabilities:

- Collaborate to develop ongoing monitoring of the PCA workforce supply and demand.

Contributors:

Bureau of Labor Statistics. <http://stats.bls.gov>

Paraprofessional Staffing Study – The Vermont Department of Aging and Disabilities, March 22, 2001

Pharmacist

Profession Overview

- Doctor of Pharmacy – Pharm. D. required
- There are no pharmacy programs in Vermont

Pharmacists work closely with physicians and other health practitioners to ensure that patients are treated with the safest, most effective medications. Pharmacists routinely review medication orders, prescriptions, and medication profiles to help ensure appropriate drug selection, dose and dosing schedule. They look for drug-drug and drug-food interactions that may be harmful. If a pharmacist identifies a drug related problem or detects a potentially dangerous situation, she/he is responsible for notifying the doctor, patient, or both, and recommends potential alternatives.

Pharmacists with advanced education may collaborate with other providers to focus on direct patient care activities. These activities may include policy development, research, looking at responses to drug therapies and minimizing drug side effects.

Main Setting(s): Hospitals, Retail Pharmacies

Data Available

- Secretary of State, Office of Professional Regulation licenses pharmacists in conjunction with the Pharmacy Board.
- According to the Office of Professional Regulation there were approximately 860 pharmacists in the State in 2003
- The UVM Office of Nursing Workforce Research, Planning and Development conducted a survey in 2003 and reported:
 - a 23% vacancy rate and a 23% turnover rate in hospital settings
 - at a 23% vacancy rate, pharmacists are second only to pharmacy technicians for highest vacancy rate in the hospital setting
 - employers cited pharmacists as the one of the top “most unavailable” professions
 - more difficult to fill in 2003 than 2002 by 50% or more of the hospitals responding.
- A report by David Knapp titled Professionally Determined Need for Pharmacy Services in 2020 estimated:
 - The projected shortfall of pharmacists will be 157,000 by the year 2020
- The Bureau of labor statistics reports:
 - Job openings will not grow as fast as average job growth
 - There will be a relative balance of supply and demand, with slightly more demand

Ongoing Data Needed

Data from the Secretary of State, Office of Professional Regulation such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

Data from Vermont education programs such as:

- Number of graduates, program capacity, number of people staying to practice in Vermont, source of students (state, town)

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Qualitative Information

The vast majority of students in pharmacy schools enter school with the idea that they want to practice pharmacy in a retail setting. Retail settings pay considerably more than hospital settings and with the marked increase in the number of retail pharmacies being opened there are many opportunities for pharmacists to be employed and mobile. The role of pharmacists in each setting is also markedly different. A report by the American College of Clinical Pharmacy reported retail pharmacists can spend the majority of their time (68%) filling prescriptions, working with insurance companies and formularies and as little as 2% of their time on disease management.(1) This is not surprising, considering from 1992 to 1999 the number of prescriptions filled per pharmacist in retail pharmacies grew 32%. (2) Hospital pharmacists, however, may work with physicians and nurses more closely, address autodispensing issues and controlled substance issues, work less hours, have more flexibility and make less money.

School requirements changed from a 5 year program to 6 year program which limited capacity in schools as they needed to cut class size to accommodate for a longer program. This effect has increased the financial burden for some pharmacists as well as provided a greater disincentive for others who may be looking to change careers or advance in the pharmacy field (such as other science majors or pharmacy techs).

Observations

Given the current changes in the health care environment with more viable pharmaceuticals being developed and with more emphasis on disease management it can be an exciting time for people in the pharmacy profession. While, clearly, there are current shortages and greater shortages pending, it is an important time to look at the role of the pharmacist, both to address the health care quality of Vermonters and increase the visibility and palatability of the field for Vermont students considering a career in health. With the number of prescriptions rising dramatically and the number of graduates from pharmacy school remaining the same, the field will have to look at how to create efficiencies within pharmacy dispensing; using automation and technical personnel to increase the ability to fill greater numbers of prescriptions. At the same time, with increased focus on drug interactions and the management of chronic disease, it will be exciting for pharmacists to gain an increased stature as important partners in the clinical management of chronically or seriously ill patients both in the hospital and in the community. Their role to manage disease more effectively and to decrease poor outcomes based upon misuse of medications has been shown to decrease health costs and improve patient outcomes. To support this work, re-engineering of the existing system needs to occur with the profession, employers and policymakers committing to work on a plan.

Recommendations:

- Work with regional pharmacy schools on curriculum to include more information on hospital pharmacists
- Use technology and staff differently to increase efficiencies, use other staff for more dispensing and pharmacist for more patient safety and clinical issues.
- Make the field more appealing and more efficient by decreasing burdens in insurance, formularies and prior authorizations.
- Improve career ladder for other science professions, including pharmacy technicians.
- Provide more opportunities for internships at Vermont hospitals.
- Engage more Vermont students interest in the field of pharmacy.

Contributors:

1. HRSA, Bureau of Health Professions, 2000, The Pharmacist Workforce, A study of the supply and demand for pharmacists
2. American College of Clinical Pharmacy, August 2000, A Vision of Pharmacy's Future Roles, Responsibilities, and Manpower Needs in the United States. Pharmacotherapy; volume 20, number 8.
Jane McConnell, Pharmacist – Gifford Medical Center
Vermont Hospital Human Resource Directors
Bureau of Labor Statistics. <http://stats.bls.gov>

Pharmacy Technicians

Profession Overview

- On the job education or formal academic program required
- Program at Vermont Technical College

Pharmacy technicians assist licensed pharmacists in the dispensing of medications and other health-related items to patients. They prepare the medication needed to fill the prescription by retrieving it, counting, pouring, weighing, measuring and sometimes mixing the medications. Before the prescription is given to the patient, a pharmacist checks it. Technicians also establish and maintain patient records, prepare insurance claim forms, stock and take inventory of prescription and over-the-counter medications.

Main setting(s): Hospitals and retail pharmacies.

Data Available

- Secretary of State, Office of Professional Regulation registers pharmacy technicians.
- According to the Office of Professional Regulation there were approximately 621 pharmacy technicians in Vermont in 2003.
- UVM Office of Nursing Workforce Research, Planning and Development conducted a survey in 2003 and reported:
 - A 35% vacancy rate and 14% turnover rate in hospitals settings
 - At a 35% vacancy rate, pharmacy technicians hold the top place for vacancy in the hospital setting
- The Bureau of Labor Statistics reports:
 - the number of new jobs opening will grow faster than average
 - there will be a relative balance of supply and demand of workforce

Ongoing Data Needed

Data from the Secretary of State, Office of Professional Regulation such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

Data from Vermont education programs such as:

- Number of graduates, program capacity, number of people staying to practice in Vermont, source of students (state, town)

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Qualitative Information

In large part, the demand for pharmacy technicians is being driven by the pharmacist workforce shortage; momentum for increased use of pharmaceutical care and increased concern about safe medication use. Some studies have shown that formal pharmacy technician education can improve staff retention and longevity, job satisfaction and a sense of vocational identity. In Vermont, certification (versus registration) is not required for practice as a pharmacy technician and the majority of people holding these positions are given on the job education rather than attending a formal academic program.

A Professionally Staffed Healthcare System

The increasing number of retail pharmacies in communities and the attention to patient safety in hospitals will continue to help shape the future scope of service and education of the profession.

Observations

Given changes in the health care environment and their effects on pharmacy services, such as the increasing number of prescriptions and the demand for more efficiencies because of lack of pharmacists, there will be an increasing need for pharmacy technicians. In addition, these changes will pressure the industry and professions to re-examine the role of pharmacy technicians and other professionals in dispensing medications and providing clinical advice. It is unclear what the profession will require for minimum on the job or formal education, however, the existing body of knowledge indicates that more rigorously trained pharmacy technicians could not only result in higher quality staff but also better retention.

Recommendations

- Create a better career ladder for pharmacy techs including opportunities for formal education programs and entry to pharmacy school.
- The need to increase efficiencies will demand that we consider the role of pharmacy techs or other health professionals in delivery of pharmaceuticals in hospitals and retail pharmacies and appropriately allocate responsibilities across those professions. Work with Board of Pharmacy, professional organization and employers to create standards for education and scope of practice.
- Encouragement of participation in degree programs for existing, on the job trained techs, could increase retention and job satisfaction.
- Improve the pipeline from high school through pharmacy school to create more entry to the profession and more career options once in the profession.
- Increase the ability to predict supply and demand and provide ongoing workforce planning to address current and future workforce needs.

Contributors:

Rouse, Michael J. B.Pharm, M.P.S., White paper on pharmacy technicians 2002: Needed changes can no longer wait. American Journal of Health-System Pharmacists: volume 60, pp 37-51
American College of Clinical Pharmacy, August 2000, A Vision of Pharmacy's Future Roles, Responsibilities, and Manpower Needs in the United States. Pharmacotherapy; volume 20, number 8.
Jane McConnell, Pharmacist – Gifford Medical Center
Bureau of Labor Statistics. <http://stats.bls.gov>

Physicians - Primary Care

Profession Overview

- Bachelors degree followed by four years of medical school plus residency education.
- Education programs are available at UVM
- Residency Programs are available at Fletcher Allen Health Care

Physicians, also known as doctors of medicine, use a combination of extensive education and training, work experience and ongoing research to better serve their patients. Once a physician has determined a diagnosis and a treatment strategy, she/he works with the rest of the health care team to put that strategy into action. While all physicians are trained and licensed to diagnose and treat illnesses and to prescribe medications, most choose to specialize in a particular area.

The AMA believes that primary care consists of the provision of a broad range of personal medical care (preventive, diagnostic, palliative, therapeutic, curative, counseling and rehabilitative) in a manner that is accessible, comprehensive and coordinated by a licensed MD/DO physician over time. Care may be provided to an age-specific or gender-specific group of patients, as long as the care of the individual patient meets the above criteria.

Main setting(s): Hospitals, private and public practices

Data Available

- Department of Health, Medical Practice Board licenses all physicians.
- There are 498 full time equivalent physicians providing primary care in the state.
 - For Internal Medicine
 - There are 146 full time equivalents providing services in Vermont
 - Their average age is 48
 - 73% are accepting new patients
 - There are no Internal Medicine physicians in Grand Isle County, in other counties they range from 7.42 full time equivalents per 100,000 persons in Lamoille County to 35.42 full time equivalents per 100,000 persons in Windsor County
 - For Family Practice
 - There are 206 full time equivalents providing services in Vermont
 - Their average age is 46
 - 82% are accepting new patients
 - They range from 12.8 full time equivalents per 100,000 persons in Grand Isle County to 55.94 full time equivalents per 100,000 persons in Lamoille County.
 - For Pediatricians
 - There are 82 full time equivalents providing services in Vermont
 - Their average age is 46
 - 96% are accepting new patients
 - They range from 0.26 full time equivalents per 100,000 persons in Grand Isle County to 18.25 full time equivalents per 100,000 persons in Addison County.
 - For OBGYN:
 - There are 59 full time equivalents providing services in Vermont

A Professionally Staffed Healthcare System

- Their average age is 48
- 96% are accepting new patients
- Essex and Grand Isle Counties have no OBGYN, in other counties they range from 5.83 full time equivalents per 100,000 persons in Windham County to 15.51 full time equivalents per 100,000 persons in Bennington County.

Ongoing Data Needed

Data from the Department of Health, Medical Practice Board such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

Data from Vermont education programs such as:

- Number of graduates, program capacity, number of people staying to practice in Vermont, source of students (state, town)

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Qualitative Information

Employment of physicians and surgeons will grow about as fast as the average for all occupations through the year 2012 due to continued expansion of the health services industries. The growing and aging population will drive overall growth in the demand for physician services, as consumers continue to demand high levels of care using the latest technologies, diagnostic tests, and therapies. Demand for physicians' services is highly sensitive to changes in consumer preferences, healthcare reimbursement policies, and legislation. For example, if changes to health coverage result in consumers facing higher out-of-pocket costs, they may demand fewer physician services. Demand for physician services may also be tempered by patients relying more on other healthcare providers—such as physician assistants, nurse practitioners, optometrists, and nurse anesthetists—for some healthcare services. However, historically the use of mid-level practitioners has helped meet demands for care but there has not been a concomitant decrease in the number of physicians employed, presumably indicating that total demands for care have increased along with the supply of professionals. Telemedicine could allow physicians to treat patients or consult with other providers remotely. Increasing use of electronic medical records, test and prescription orders, billing, and scheduling could also improve physician productivity. The impact of new technologies on physician productivity has not been extensively studied, however, so the actual effect on the demand for physicians in the workforce is unknown.(1)

The Council on Graduate Medical Education (COGME) foresees a shortage of physicians and recommends expanding the capacity of medical schools to train additional physicians. (2)

In the 1980's and 1990's, workforce analysts and policymakers anticipated an oversupply of physicians. In light of the associated studies, the AAMC and other nationally recognized organizations recommended specific steps to reduce physician supply to avoid the predicted surplus. A recent review of current trends has prompted the AAMC to change its position on this issue. Although definitive conclusions will require more monitoring and evaluation of workforce needs, they conclude that there is sufficient evidence to recommend that the capacity of medical schools and Graduate Medical Education programs should be increased modestly at this time to correct projected physician workforce shortages and meet the needs of the nation by the year 2015 and beyond.(3)

Observations

A Professionally Staffed Healthcare System

Overall Vermont has done well in attracting and retaining primary care physicians in the state, however, we still see geographic maldistribution particularly in our rural remote areas. Furthermore, certain primary care specialties such as primary care internal medicine are reporting decrease in availability and access to all patients, regardless of payment source. Internal Medicine is a key profession in serving the needs of an older population and with an increasingly aging population, the demand on primary care internal medicine will continue to grow. As noted by the Bureau of Labor Statistics, demand for physician services are driven by a multitude of personal, technological and policy related factors.

Recommendations:

- Work with existing programs in the state (such as the UVM Area Health Education Center Program, Educational Loan Repayment and Freeman Scholarship programs) to target the maldistribution of primary care specialties and current and future high need primary care specialties, such as internal medicine, through the recruitment of physicians into the state and the education of physicians at our academic programs.
- Provide better monitoring of physician workforce in collaboration with the Department of Health in order to more adequately predict physician workforce needs taking into account influences such as rate of educating primary care specialties, patient demand, technological changes and policy related factors.
- Consider increasing the capacity of entry level and Graduate Medical Education in Vermont.

Contributors:

1. Bureau of Labor Statistics. <http://stats.bls.gov>
 2. AAMC Reporter, November 2004: COGME Report Predicts Physician Shortage
 3. The Physician Workforce: Position Statement, AAMC, February 2005
- Margaret Trautz, Executive Director, Northeastern Vermont AHEC
Mimi Reardon MD, Associate Dean, Office of Primary Care, UVM College of Medicine
David Little MD, Medical Director and Faculty, AHEC Program
Jessica Comai, Director AHEC Program
Madeleine Mongan Vice President for Policy, Vermont Medical Society
Vermont Hospital Human Resource Directors

Physicians – Specialty Care

Profession Overview

- Bachelors degree followed by four years of medical school plus residency education required.
- Education programs are available at UVM
- Residency Programs are available at Fletcher Allen Health Care

Physicians, also known as doctors of medicine, use a combination of extensive education and training, work experience and ongoing research to better serve their patients. Once a physician has determined a diagnosis and a treatment strategy, she/he works with the rest of the health care team to put that strategy into action. While all physicians are trained and licensed to diagnose and treat illnesses and to prescribe medications, most choose to specialize in a particular area.

Specialty care physicians typically undergo more education than primary care physicians in order to concentrate in one area of medicine. Specialists work in concert with primary care physicians on a collaborative and consultative manner to better serve their patients.

Main setting(s): Hospitals, private and public practices

Data Available

- Department of Health, Medical Practice Board licenses and collects supply data on all physicians.
- There are approximately 956 physicians providing specialty care in Vermont.
- There are over 100 types of physician specialties in Vermont.
- Employers cite General Surgeons, Urologists, Neurologists, Hospitalists, Dermatologists and Gastroenterologists as most difficult to recruit.
 - Data is not collected for Hospitalists
 - For Gastroenterologists
 - There are 21 providing services in Vermont
 - Their average age is 49
 - They range from zero full time equivalents per 100,000 persons in the Middlebury, Newport, Springfield, St. Albans and St. Johnsbury areas to 6.62 full time equivalents per 100,000 persons in the Bennington area.
 - For General Surgeons
 - There are 53 providing services in Vermont
 - Their average age is 50
 - 98% are accepting new patients
 - They range from 2.53 full time equivalents per 100,000 persons in Rutland area to 15.49 full time equivalents per 100,000 persons in the Randolph area.
 - For Urologists
 - There are 25 providing services in Vermont
 - Their average age is 45
 - 97% are accepting new patients
 - They range from 0.97 full time equivalents per 100,000 persons in Morrisville area to 6.60 full time equivalents per 100,000 persons in the Randolph area.
 - For Neurologists

A Professionally Staffed Healthcare System

- There are 40 providing services in Vermont
- Their average age is 49
- 96% are accepting new patients
- They range from 0.55 full time equivalents per 100,000 persons in the St. Albans area to 8.78 full time equivalents per 100,000 persons in the Bennington area.
- For Dermatologists
 - There are 19 providing services in Vermont
 - Their average age is 49
 - They range from zero full time equivalents per 100,000 persons in the Middlebury, Randolph and Springfield area to 6.21 full time equivalents per 100,000 persons in the Brattleboro area.

Ongoing Data Needed

Data from the Vermont Department of Health, Medical Practice Board such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

Data from Vermont education programs such as:

- Number of graduates, program capacity, number of people staying to practice in Vermont, source of students (state, town)

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Qualitative Information

Employment of physicians will grow about as fast as the average for all occupations through the year 2012 due to continued expansion of the health services industries. The growing and aging population will drive overall growth in the demand for physician services, as consumers continue to demand high levels of care using the latest technologies, diagnostic tests, and therapies. Demand for physicians' services is highly sensitive to changes in consumer preferences, healthcare reimbursement policies, and legislation. For example, if changes to health coverage result in consumers facing higher out-of-pocket costs, they may demand fewer physician services. Demand for physician services may also be tempered by patients relying more on other healthcare providers—such as physician assistants, nurse practitioners, optometrists, and nurse anesthetists—for some healthcare services. However, historically the use of mid-level practitioners has helped meet demands for care but there has not been a concomitant decrease in the number of physicians employed, presumably indicating that total demands for care have increased along with the supply of professionals. Telemedicine could allow physicians to treat patients or consult with other providers remotely. Increasing use of electronic medical records, test and prescription orders, billing, and scheduling could also improve physician productivity. The impact of new technologies on physician productivity has not been extensively studied, however, so the actual effect on the demand for physicians in the workforce is unknown.(1)

The Council on Graduate Medical Education (COGME) foresees a shortage of physicians and recommends expanding the capacity of medical schools to train additional physicians. (2)

In the 1980's and 1990's, workforce analysts and policymakers anticipated an oversupply of physicians. In light of the associated studies, the AAMC and other nationally recognized organizations recommended specific steps to reduce physician supply to avoid the predicted surplus. A recent review of current trends has prompted the AAMC to change its position on this issue. Although definitive conclusions will require more monitoring and evaluation of workforce needs, they conclude that there is sufficient evidence to recommend that the capacity of medical schools and Graduate Medical Education

A Professionally Staffed Healthcare System

programs should be increased modestly at this time to correct projected physician workforce shortages and meet the needs of the nation by the year 2015 and beyond.(3)

Observations

Rural remote areas continue to have a disproportionate struggle with recruitment and retention of specialty physicians. This will hold true for rural areas of Vermont. Lower densities of patients and potential professional isolation (such as for on call or vacations) can lead to difficulties with recruitment and financial sustainability of specialists.

Recommendations:

- Work with existing programs in the state (such as the UVM Area Health Education Center Program, Educational Loan Repayment and Freeman Scholarship programs) to target the maldistribution specialty care physicians such as General Surgeons, Urologists, Neurologists, Hospitalists, Dermatologists and Gastroenterologists.
- Consider increasing the capacity of entry level and Graduate Medical Education in Vermont.
- Provide better oversight and monitoring of physician workforce in collaboration with the Department of Health in order to more adequately predict physician workforce needs taking into account influences such as those associated with rural remote practice.
- Explore models and best practices addressing the issues of patient volume, professional isolation and financial sustainability of physician specialists.
- Assist employers in anticipating need based on retirement or loss of physicians and engaging in in-state and out-of-state recruitment activities.

Contributors:

1. Bureau of Labor Statistics. <http://stats.bls.gov>
 2. AAMC Reporter, November 2004: COGME Report Predicts Physician Shortage
 3. The Physician Workforce: Position Statement, AAMC, February 2005
- Margaret Trautz, Executive Director, Northeastern Vermont AHEC
Mimi Reardon MD, Associate Dean, Office of Primary Care, UVM College of Medicine
David Little MD, Medical Director and Faculty, AHEC Program
Jessica Comai, Director AHEC Program
Madeleine Mongan Vice President for Policy, Vermont Medical Society
Vermont Hospital Human Resource Directors

Radiologic Technologist

Profession Overview

- Associate degree available
- Associates degree offered at Champlain College and Southern Vermont College and Certificate program offered at New England School of Radiologic Technology which is at Rutland Regional Medical Center.

Radiologic technologists, more appropriately referred to as radiographers, work extensively with computers and specialized equipment to create images that allow physicians to diagnose conditions inside the body. Radiologic technologists work with X-Rays and they might specialize in several other imaging areas such as CT scan, mammography, ultrasound or MRI. They are among a large group of imaging specialists employed in health care settings.

Main setting(s): Hospitals

Data Available

- Secretary of State, Office of Professional Regulation licenses radiologic technologists.
- According to the Office of Professional Regulation there were approximately 497 radiologic technologists licensed in the state in 2003.
- The UVM Office of Nursing Workforce Research, Planning and Development conducted a survey in 2003 and reported:
 - a 13% vacancy rate and 16% turnover rate in hospitals
 - hospitals cited radiologic technologists as the one of the top “most unavailable” professions
 - radiologic technologists ranked as one of the top positions filled by travelers (8% of all FTEs were filled by travelers)
 - radiologic technologists more difficult to fill in 2003 than 2002 by 50% or more of the hospitals responding
- The Bureau of Labor Statistics projected needs for radiologic technologists to 2012 and reported
 - the number of new jobs opening will grow faster than average
 - there will be a relative balance of supply and demand of workforce
- The American Society for Radiologic Technologists reported
 - Workforce demand will exceed supply by approximately 30% by 2012

Ongoing Data Needed

Data from the Secretary of State, Office of Professional Regulation such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

Data from Vermont education programs such as:

- Number of graduates, program capacity, number of people staying to practice in Vermont, source of students (state, town)

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Qualitative Information

When evaluating radiologic technologist turnover and vacancy rates, it is also important to analyze the current variety of available imaging jobs and the workforce issues. The impact of the adequacy of the radiologic technologist workforce reverberates in other parts of the healthcare workforce. Radiologic technologists often cross-train and then migrate to specialty areas. This migration relieves shortages in those specialty areas but contributes to the persistent shortage of radiologic technologists. This phenomenon confounds the vacancy and turnover rates.

While these issues create ongoing challenges, the overall opinion of industry experts is optimistic overall. The profession has gone through some drastic shortage and glut periods, but the number of education programs nationally is increasing, which should lead to fewer shortfalls. Strategies are still needed however, to minimize the peaks and the troughs that the profession has experienced. Resources have been redirected in a reactive manner but need to be proactive.

While overall shortages may be alleviated with additional education programs, regional disparities will still occur, particularly in rural remote areas. While education programs have proliferated, preceptor education and mentoring support still needs attention.

Observations

There are inconsistencies in the existing data to indicate whether there are adequate numbers of radiologic technologists being produced in order to meet national workforce needs. Similarly, there lacks good local information on the Vermont radiologic technologist workforce to define what is happening in our State. This lack of understanding could be improved with better surveillance and monitoring of the supply and demand of radiologic technologists. If the profession in Vermont can come to consensus, based on good data, that there are shortfalls in the radiologic technologist workforce additional recommendations such as expansion of existing education programs should be discussed.

Recommendations:

- Develop a better understanding of the supply and demand for radiologic technologists in Vermont through improved monitoring such as licensing and vacancy surveys.
- Increase awareness among the general public as well as middle and high school students to create a steady flow of students into the field and help alleviate the current shortage.

Contributors:

Susyn Dees, Faculty, Champlain College Radiography Program and Chair, Vermont Society for Radiologic Technologists

Sheila Gregoire, Diagnostic Imaging Team Leader, Northwestern Medical Center

Kevin Powers, American Society of Radiologic Technologists

Vermont Hospital Human Resource Directors

Burton Wilcke, PhD Associate Professor and Chair, UVM Department of Biomedical Technologies

Bureau of Labor Statistics. <http://stats.bls.gov>

Respiratory Therapists

Profession Overview

- Associates or advanced degree required
- Program offered through Vermont Technical College in collaboration with Community College of Vermont

Respiratory therapists help people breathe more easily. Respiratory therapists test patients for breathing capacity and analyze oxygen and carbon dioxide concentrations. To improve breathing, they treat patients with exercises and physiotherapy, by administering inhaled medications and, if necessary, by hooking up ventilators for patients who cannot breathe for themselves. Respiratory therapists are also educators, making sure patients and their families know about maintaining cardiopulmonary function and health.

Main setting(s): Hospitals, long term care facilities, home health agencies

Data Available

- Secretary of State, Office of Professional Regulation will begin licensing respiratory therapists in 2004.
- According to Vermont Technical College, there are approximately 100 respiratory therapists in Vermont.
- According to the Bureau of Labor Statistics:
 - job openings will grow faster than average job growth
 - future demand will exceed supply
- The UVM Office of Nursing Workforce Research, Planning and Development conducted a survey in 2003 and reported:
 - An 18% vacancy and 23% turnover rate in hospitals, ranking third highest vacancy rate in the hospital setting
 - Ranked in the top for positions filled by travelers with 9% of all FTEs filled by travelers

Ongoing Data Needed

Data from the Secretary of State, Office of Professional Regulation such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

Data from Vermont education programs such as:

- Number of graduates, program capacity, number of people staying to practice in Vermont, source of students (state, town)

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Qualitative Information

Some people in the profession relate the issues experienced by respiratory therapists to those experienced by nursing. Cultural issues, respect, decision making, professionalism and salaries are among the number of parallels that were made. In fact, some greatly aligned the professions claiming that a career in respiratory therapy will be less attractive when the salary differences between it and nursing widen as the same type of person who may choose respiratory therapy would choose nursing.

A Professionally Staffed Healthcare System

The Vermont education program hopes to expand to other locations in Vermont. Currently clinical directors and preceptors create some limitations when it comes to providing clinical experience in other communities where students might want to be trained.

Observations

The parallel with nursing and the issues nursing has encountered in the past continued to be a common thread among local and national people interviewed. The 2004 legislative session saw a bill for registration of respiratory therapists by the Secretary of State, Office of Professional Regulation which had great support by the profession. Many in the field felt that recognition by the state in this manner would bring a sense of identity, respect, professionalism and recognition to the unique work for which respiratory therapists are trained. Current and future need for respiratory therapists as well as the overwhelming sense that the profession is not well understood is the basis for the following recommendations.

Recommendations:

- Increase visibility and understanding of profession with public, middle and high school students in order to promote entry into the field.
- Develop opportunities for clinical experiences in other communities in order to address shortages in rural, remote parts of the state.
- Work with the professional and Office of Professional Regulation to provide a better understanding of the future supply and demand.

Contributors

Vermont Hospital Human Resource Directors

Faye Bacon, Faculty, Champlain College Respiratory Therapy Program and Board Member,
Vermont/New Hampshire Society for Respiratory Care

Bill Dubbs, American Association for Respiratory Care

Skip Bangley, Director of Cardiopulmonary Services, Rutland Regional Medical Center
Bureau of Labor Statistics. <http://stats.bls.gov>

Social Worker

Profession Overview

- Bachelors or Masters degree required
- Programs at Castleton State College, Springfield College, and University of Vermont

Working from a strengths perspective, social workers are guided by the values of social justice and human rights. Social workers often reach out to people who may be described as oppressed and underserved. Social workers most commonly work in non-profit agencies and/or government agencies. Some social workers choose to work in for-profit businesses or join private practice groups. Fields of social work practice include, but are not limited to, mental health, child welfare, family work, substance abuse, adult and juvenile justice, school social work, medical social work, geriatric social work, homelessness and housing, domestic violence, and community organizing/development.

Main setting(s): Hospitals, home health, long term care facilities, mental health or alcohol and drug abuse programs

Data Available

- Secretary of State, Office of Professional Regulation licenses Masters level social workers
- Secretary of State, Office of Professional Regulation does not license Bachelors level social workers.
- According to the Office of Professional Regulation there were approximately 694 Masters level social workers in Vermont in 2003
- UVM Office of Nursing Workforce Research, Planning and Development conducted a survey in 2003 on the vacancy and turnover rates in hospitals, home health and long term care and reported:
 - The highest rates in settings included a 7% vacancy rate in hospitals and a 21% turnover rate in home health settings – indicating different settings experience vastly different recruitment and retention issues and challenges.

Ongoing Data Needed

Data from the Secretary of State, Office of Professional Regulation such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

Data from Vermont education programs such as:

- Number of graduates, program capacity, number of people staying to practice in Vermont, source of students (state, town)

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Qualitative Information

Social work positions can be assumed by Bachelors or Masters level professionals but provide different types of support for their clients. Anecdotally, according to local and national sources, while there is not an overall shortage of Masters trained social workers, there is a maldistribution. Masters prepared social

A Professionally Staffed Healthcare System

workers often experience difficulty finding employment in urban areas, however, rural areas experience higher vacancy rates and find it difficult to recruit Masters prepared staff.

While social work has a very strong sense of professionalism they struggle with dealing with the myths and false images of social workers – negative images that portray their work as making peoples lives difficult rather than the helping profession that it is.

Observations

The profession of social worker, as viewed by the occupations professional organizations, has a clear scope of work and formal education. However, often a social worker position is occupied by someone without a degree in social work, rather some other human service or liberal arts degree. While the social work professionals interviewed for this report understood that other disciplines can be hired to fulfill case management functions (which are often equilibrated to social work positions) they disapprove of them being called social workers when that is not their formal degree. Their concern; it takes usage of a professional title (social worker) and, in doing so, misrepresents the set of skills and educational framework of a person in the position. In addition, people interviewed believe that when staff not formally trained as social workers do not have the necessary framework from which they can draw to support clients and communities to the greatest extent. This issue can be exacerbated through inadequate supervision. A professional social worker (preferably Masters level) is best equipped to supervise, teach and support staff in ways that address their lack of education in the tenets of social work.

- Develop better public image of social work education.
- Increase agency education for staff without professional social work education background.
- Provide opportunities for supervision by (Masters) trained social workers for all social work and case management related positions.

Contributors:

Michael Gilman, MSW – Executive Director, Vermont Chapter, National Association of Social Workers
Evelyn Tomaszewski – National Association of Social Workers
Bureau of Labor Statistics. <http://stats.bls.gov>

Speech-Language Pathologist

Profession Overview

- Masters Degree Required
- University of Vermont offers a Bachelors in Communications Science as well as a Masters Program in Speech Language Pathology.

Speech-language pathologists are concerned with conditions that affect speech, voice and language. Their patients may have trouble with stuttering, swallowing or understanding and using language. Some have lost the ability to speak after a stroke or other trauma. Speech-language pathologists teach sign language, help people strengthen muscles used in speech and swallowing, and work with patients to improve their lost or compromised abilities.

Main setting(s): Schools, long term care facilities, home health agencies and hospitals

Data Available:

- Department of Education has begun regulation of Speech Language Pathologists working in the school setting.
- The UVM Office of Nursing Workforce Research, Planning and Development conducted a survey in 2003 and reported speech-language pathologists:
 - As the position with the highest vacancy rate in Home Health at 50%.
 - As the position with the second highest turnover rate in Home Health at 67%.
 - As the position with the highest vacancy rate in Long Term Care at 25%.
 - As the position with the third highest turnover rate in Long Term Care at 20%.
 - Note: survey included data on less than 20 FTEs statewide, small numbers could cause large variance if not accurate.
- The Bureau of Labor Statistics projected needs for speech language pathologists to 2012 and reported
 - the number of new jobs opening will grow faster than average job growth

Ongoing Data Needed

Data from the Department of Education such as:

- Age, number of hours and weeks worked, education, employment location, plans to retire or leave the field

Data from Vermont education programs such as:

- Number of graduates, program capacity, number of people staying to practice in Vermont, source of students (state, town)

Data from employers such as:

- Vacancy rates, turnover rates, wages, benefits, professional development

Since Department of Education only regulates speech language pathologists in education, additional information is necessary for those employed in health care.

Qualitative Information:

The vast majority of speech language pathologists work in the educational setting, however they are found in long term care, hospitals and home health agencies as well. The profession is mainly

A Professionally Staffed Healthcare System

dominated by women and as leadership opportunities in health care have increased, the number of women going into the health sector of speech language pathology has decreased. Employment in the health sector differs from the educational sector. There are not a lot of medical opportunities in hospitals however the retention rate is good. In the educational setting turnover is greater and so are the number of vacancies. Home health and long term care tend to experience larger vacancies as well. There is a education program in Vermont, however, like other areas of the nation, there is a shortage of PhD prepared faculty. This could pose a problem to the long term supply of speech language pathologists. Some schools in the United States are interested in expanding the capacity of their programs to produce more speech language pathologists but find the faculty shortage an impediment to do so.

Over the past ten years, the provision of services has tended to be driven by reimbursement which has some in the profession concerned about the impact on quality. Research on evidence based practice needs to be improved in order to inform public policy for funding of programs and services. The building of healthy collegial teams in health care and education is important to the retention of professionals.

Observations:

The most outstanding issue appears to be that the number of speech language pathologists being produced is not keeping up with the needs of the health care nor educational settings. To the same effect, of growing concern is also the ability of educational training programs to continue to produce the current number of graduates in the shadow of the shortage of PhD level faculty.

Recommendations:

- Consider centralized recruitment of speech language pathologists for the state to more effectively compete.
- Explore issue of faculty shortage with academic training program, particularly in relation to possibility of program expansion.
- Better monitor supply demand in the school as well as health care environment.

Contributors:

Jessie Graham - President, Vermont Speech, Language and Hearing Association, Inc.

Moirra Mulligan – Fletcher Allen Health Care

Janet Brown – American Speech, Language and Hearing Association

Bureau of Labor Statistics. <http://stats.bls.gov>